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ARCHEOLOGY AND THE SUMERIAN PROBLEM

By
HENRI FRANKFORT

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PREFACE

The substance of this essay was contained in a paper read at the Eighteenth International Congress of Orientalists, held at Leiden in September, 1931. The purpose of the paper was twofold: to present a survey of the archeological material of pre-Sargonid date, which has increased during the last two or three years with unprecedented rapidity; and to draw the inference which in the opinion of the author the new material justified, an inference which seemed to provide at least a partial solution to the Sumerian problem. For, though we can expect only philology and anthropology jointly to determine to which of the better known groups of humanity the Sumerians were ultimately related, archeology seems at least able to define both the region whence, and the relative date at which, the Sumerians descended into the plain of the Two Rivers.

Incidental delay in publication has made it possible to take into account some important publications which have appeared since the Congress at Leiden; furthermore, we have been able to refer to several excavations which took place during the winter of 1931/32. That this was possible proves once more the value of the free exchange of information which has been taking place among leaders of expeditions in Iraq since Mr. Sidney Smith, while Director of Antiquities in 1930, inaugurated and presided over the first annual conference of archeologists in Baghdad. An inquiry such as that presented in this volume should, therefore, include a grateful acknowledgment of his fruitful initiative.

The author wishes, furthermore, to express his indebtedness to Miss G. Rachel Levy, who prepared Tables I–III and Figures 2 and 7–9, and to thank Dr. T. George Allen for his painstaking care in the actual publication of this essay.

Henri Frankfort

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MAP SHOWING THE THREE CHALCOLITHIC CIVILIZATIONS OF WESTERN ASIA

(Anatolian-Transcaucasian, Syrian, Iranian)

THE CORRELATION OF RECENT DISCOVERIES

Virgin soil has been reached in Mesopotamian excavations on more than one occasion.[1] But no interpretation of the successive strata could claim to be valid for the country as a whole or to reflect the development of civilization since the advent of man in the plain of the Two Rivers. In the winter of 1929/30, however, a new situation arose. The observations made at Ur, Erech, and Kish show such a far-reaching agreement regarding the succession of remains and can be correlated so well with earlier and widely spread discoveries that the main outline of the cultural development of Mesopotamia, independent of the individual history of any one site, becomes discernible. But then a new way of approach to the Sumerian problem also should be available. We may follow the line of cultural development and observe whether the arrival of the Sumerians cannot be traced by certain changes in its course. Or rather, in order to progress from the known to the unknown, we should start from the earliest period known to be Sumerian and follow characteristic elements of its civilization through the preceding periods to the moment when man emerges in Mesopotamia. We may then at each stage ask whether such a period also should be called Sumerian because of the continuity which links it to our starting-point, or whether the differences are such as to necessitate the assumption that that peculiar people had not yet arrived in the country at the time under discussion.

Whether the available material is adequate to our purpose remains, of course, to be seen. Its classification in Table I, which forms the basis of our argument, stands certainly in need of some justification.

[1] At Nippur and Bismaya (Banks, *Bismya* [New York, 1912] pp. 236 ff.) first of all, but the stratification of remains at those sites is not published in any useful form. At Susa virgin soil was originally reached in one deep trench; the stratification is given in De Morgan's admittedly theoretical diagram ("Mémoires de la Délégation en Perse" XIII [1912] 23, Fig. 113), to which, however, recent work by M. de Mecquenem ("Mémoires de la Mission archéol. de Perse" XX [Paris, 1928] 99–132) has given some substance. At Tepe Khazineh and at Samarra certain deposits were observed to be situated on virgin soil. In 1929 careful investigations were carried out to this level at Kish and at Ur, and in 1932 at Uruk, Fara, and Nineveh. See Appendix I.

We have started with the assumption that similar groups of remains found at different places are roughly contemporaneous. This is by no means always true; but the degree of probability increases in exact proportion to the number, complexity, and completeness of the similarities.[1] Our results are at best approximative; they do not take into

[1] [ARCHEOLOGICAL METHOD] An example of the danger of the comparative archeological method is the cast battle-ax with socket (No. 16 in Fig. 7), a type which is widely used in early dynastic times, disappears in the period of the dynasty of Akkad (for a possible explanation see p. 54), then is said to reappear later, probably in the period of the 1st dynasty of Babylon. There are, at any rate, in the Baghdad Museum specimens dated to this period from M. de Genouillac's excavations at Kish. It is an exceptional case, but shows nevertheless how far our conclusions would be off the mark if we used this one type of ax to synchronize all the layers in which it was found. But if we use for this purpose a varied and somewhat numerous group of objects, the risk becomes practically nil.

The discussion which followed the reading of this paper at the Congress of Orientalists revealed the unexpected fact that many interested in our subject misunderstood the exact meaning of pottery as archeological evidence. It is obviously absurd to speak of a new "culture" whenever a new type of pottery appears. Yet if the divergence between the earlier and the later ware is very great, and especially if the new technique cannot have been developed out of the old, as is the case with the Uruk ware after the al-ʿUbaid ware and again with the Jemdet Nasr polychrome ware after the Uruk ware, there is reason to believe that new ethnic elements have made their appearance. That in the cases just quoted we do distinguish periods of culture is *not* because we attach an exaggerated importance to the pottery in itself or to the appearance of a new type of pottery, but because a whole set of new features characterizes the civilizations of these periods when they are compared. The pottery serves only as an indicator that a given stage of civilization has prevailed at a site, but this conclusion is made only after the existence of this and other stages of civilization has already been established. The pottery is useful as an indicator because it is essentially a popular product; it is used, broken, and therefore found by us, in greater quantities than any other class of remains. And where it is found, it is almost always made too, because it cannot in any quantity survive primitive means of transport. Moreover, as it is a popular product, and as it admits, in contrast with weapons and tools for instance, of a great variety of shapes and decoration which have no utilitarian purpose at all but merely please the potter's fancy or that of his customers, we find it varying rapidly and may use it with good effect as an indicator of period and milieu. Finally, it so happens that the pottery is particularly rich and varied in the early periods for which we have little other information. Eduard Meyer's caricature of comparative archeological method (*Die ältere Chronologie Babyloniens, Assyriens und Ägyptens* [Berlin, 1925] pp. 69–70), which is based on an unfortunate application of that method by Professor Christian, shows how little the great historian realized its possibilities wherever historical sources fail. Thus he prefers estimates and dead reckonings based on the incomplete and not always correct king lists to the indubitable archeological material for a synchronization of events in Egypt and Sumer,

account the length of time during which certain features may survive. We can never, in this way, account for the genesis of the successive cultural stages, but are obliged to treat each as a static entity, which we define by an enumeration of its characteristics. Thus our emphasis will often differ considerably from the excavator's. For it is change and development, if only at his own site, with which he is most concerned. Eventually a synthesis of all the excavators' observations will also be possible; and then, when the final publications of the various expeditions are at hand, generalizations as to the actual growth and change of Mesopotamian civilization will no doubt be made. But at the moment we cannot attempt more than to classify the rapidly increasing material in the manner indicated above, so that at least the outstanding stages of the development can be distinguished. That the consequent difference between our table and the accounts published by Dr. Jordan, M. Watelin, and Mr. Woolley is merely one of emphasis and not one of fact should be clear when it is observed that we have, as a matter of course, strictly adhered to the sequence of layers found at their sites. Thus that which is low down in Table I, Columns 1–3, is found deep and is therefore early at the sites.

But the main divisions in the individual history of a site do not always coincide with those which a comparison of material from all over the country shows to have been of general, as distinct from local, significance. At a given site a period of decline may have left so little trace that we would not suspect its existence, had we not other places which flourished during that period to judge from. On the other hand, particular prosperity or other causes may lead during a given period at one site to a building activity which results in a great thickness of the extant layers of débris, or in a number of building-levels, which we are yet obliged to group together. Thus no one considering the finds at Warka by themselves would combine the archaic Layers IV–VI into one period, for they differ in many respects. Yet they all contain the characteristic types of pottery and are limited below by the strata bearing al-ʿUbaid remains and above by those which in every respect

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though his calculations compel us, when we really are able to follow the lives of some individuals through successive reigns, to ascribe ages from ninety to one hundred and four years or even more to those individuals (Scharff, *Grundzüge der ägyptischen Vorgeschichte* ["Morgenland" Heft 12 (Leipzig, 1927)] pp. 51 ff.).

belong to the Jemdet Nasr period; and Dr. Jordan points out in his last report how the plan of the temple on his earliest ziggurat, which corresponds with his archaic Layer VI, resembles that of the temple with stone foundations in Layer V. At Ur, on the other hand, the shafts were sunk in refuse heaps; and thus, in the absence of building-levels, only a gradual change which corresponds with the main line of development can be observed; but, since there are no clear divisions, the Uruk period, represented by the three separate Strata IV–VI at Warka, can hardly be recognized on the strength of the material from Ur as a distinct period at all. But then again we find in the refuse heaps and graves of Ur many more objects than in the ruined buildings at Warka, so that the results at these two sites supplement each other in a most useful manner.

At Kish, in turn, we note another danger inherent in generalizations based on the stratification of one site, for the remains found there in the layers immediately above virgin soil are, with few exceptions, not those of the earliest civilization of Mesopotamia. But it so happens that the particular spot where the shaft was sunk was not inhabited to any extent before the Jemdet Nasr period. Similarly, the earliest settlement at Fara seems not to have been founded until the Jemdet Nasr period.[1]

As to Susa, we have banished in its old sense the term "Susa II,"[2] which, as M. Watelin was the first to demonstrate in detail,[3] did not correspond to any reality but was simply a label used for remains of widely different dates. And the recent work of M. de Mecquenem, though it has established a general agreement between the stratification of Susa and that of the sites given in our table, is, in the absence of observed building-levels and of a correlation of the various "*son-*

[1] See Dr. Erich F. Schmidt's preliminary report in the University of Pennsylvania *Museum Journal* XXII (1931) 193–246, also our Appendix I.

[2] See Appendix IV.

[3] *L'Anthropologie* XLI (1931) 265–72. The first comparative table of results, which he published in that paper, presents the situation at each site as revealed by the excavations; but its basis is metrical. We, on the other hand, in our Table I have merely written out in meters the thicknesses of the various strata at Ur and Kish. A glance at these figures will show that they have no value for comparative purposes except in so far as they reflect the vicissitudes of the particular site to which they apply.

dages," too vague to be useful in detail. Thus Susa figures in Table I, Column 5, with a number of other sites which have produced either unstratified finds or a stratification covering but a short period. The importance of their evidence is nevertheless considerable, especially because of their geographical distribution. While the chronological position of the objects from those sites is fixed by their similarity to fully stratified finds at Ur, Kish, or Erech, their distribution proves that the four cultural stages which we discern between the first human occupation of the alluvium and the rise of the dynasty of Akkad were passed through not only by the south but by the country as a whole.[1]

After these preliminary remarks about our method of dealing with the material, we may start to consider the earliest period which is generally acknowledged as Sumerian.

THE EARLY DYNASTIC PERIOD

The rise of the dynasty of Akkad terminates the earliest period for which we could till now claim the term "Sumerian." The dominion of the Semites brings with it, among other things, a new style in art. Scanty as our material is, it shows the innovations clearly in at least the relief work and the designs on cylinder seals. Though we cannot follow the development of the new style, we know that it is found neither in the royal tombs at Ur nor, as a rule, in Cemetery A at Kish. Though the lower limit of our period is thus fixed at about 2500 B.C., the upper limit is difficult to define in terms of years.[2] Starting

[1] See Appendix I for further discussion of Mesopotamian stratigraphy.

[2] [EARLY DATES] It is much to be regretted that Professor Christian, in opposing the exaggerated dates which are fashionable among excavators where their own finds are concerned, goes too far in the opposite direction and in a number of reviews and articles maintains that even the finds from Fara, as well as all those from Assur H and G, Kish Cemetery A, and Ur, antedate the Sargonid period by only a little and partly overlap it. Though one must admit that the Sargonid period follows the one we are at present discussing, it is equally true that the latter in its beginning links on with the Jemdet Nasr period and must extend therefore over a certain length of time. While we are not yet able to estimate this length of time with precision and to judge the development of the various arts during that period, it is not helpful to try to force inconclusive archeological evidence into a definite testimonial. As to the historical material, the corruption of the king lists is evoked only to justify a shortening of reigns; the other possibility, that the admitted mistakes in the lists may have resulted in giving too short totals for dynasties or reigns, is not considered at all. Similarly, when the time

from the well known synchronism that Sargon defeated Lugalzaggisi and that the latter defeated Urukagina, the last king of Urnina's dynasty at Lagash, we may allow from Sargon to Urnina 200 years, as Eduard Meyer does; but we are then almost certainly exaggerating the interval between them. Urnina was not the first of his line; and we must, in fact, allow for an earlier king of Kish, Mesilim. On the other hand, Mr. Gadd has made the attractive suggestion[1] that Eannatum, who conquered Ur, put an end to the only early dynasty of whose existence we have contemporary evidence—the 1st dynasty of Ur. And he calculates that the first king of that dynasty, the founder of the temple at al-ʿUbaid, A-anni-padda, lived just over 100 years before Urnina. If we allow some more time for the consolidation of the early dynastic period after the conclusion of the preceding one, we get near 2900 B.C. as a perhaps not improbable date for its beginning, a date which seems at any rate rather too high than too low. Any earlier date is devoid of factual foundation altogether.

Even so, these calculations are to a large extent dependent on the king lists, which are demonstrably corrupt; if their evidence is at all pressed, speculations ensue which are in every respect as futile as those wherein thicknesses of layers of débris or natural deposits are used for estimating age.[2] Much more instructive seems to us the consideration of our material on the lines indicated on pages 1–3. It then becomes clear that the remains of this period belong to a remarkably

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which separates Entemena from Sargon is calculated, absolute minima are used throughout as though they were the only figures worth considering (*Zeitschrift für Assyriologie* XXXVIII [1929] 237), while no margin is allowed for the very likely occurrence that a king may have reigned a number of years after the date which happens to be the latest we know of in his reign. For further criticisms on specific points see Landsberger in *Orientalistische Literaturzeitung* XXXIV (1931) 115–36, esp. 118, n. 1, and 126, n. 1. One need only glance at the stratification at Kish (see Table I), where tablets similar to those from Fara are shown to be separated from others similar to those in use in Entemena's and Lugalanda's time by various reconstruction periods of the town and to be accompanied by objects differing in a great many respects, to realize how confusing the results of this kind of forced comparison may be.

[1] *History and Monuments of Ur* (London, 1929) pp. 68–73.

[2] Since such speculations, though obviously baseless, continue to be made, we may quote one instance where we are able to state with precision how many years were needed for the accumulation of a certain thickness of débris. In the Oriental Institute's excavations at Tell Asmar we found that the floor level of the palace

homogeneous civilization, though they are found from the foot of the Kurdish mountains down to the Persian Gulf. Several observers have pointed out how the army of Eannatum of Lagash and that shown on the "standard" from Ur are identically equipped.[1] In the Oriental

had risen about 6 meters in the interval between Gimilsin of Ur and Hammurabi, that is, about 2 meters per century at an average. I attach no general value to these figures; but, if they prove anything at all, it is surely that the years assumed to correspond with 10 or 20 meters of débris at other sites are as likely as not grossly exaggerated.

[1] [DATE OF ROYAL TOMBS] See Gadd, *op. cit.* p. 40, and especially Christian and Weidner in *Archiv für Orientforschung* V (1928–29) 139 ff. The helmets, the battle-axes, the chariot with its pole and rein ring, the javelins with forked butts (see our Table I), and the plaids are identical in both cases. This proof of the identity of material culture is much more valuable than considerations concerning stylistic features, for we know too little of Sumerian art to judge here at all. Though it is maintained (*Archiv für Orientforschung* V 144) that the "stele of the vultures" is earlier, because the soldiers are shown there in a compact phalanx, whereas on the "standard" from Ur the action dissolves itself into a number of duels between soldiers, there is no proof at all for this contention; or rather, such evidence as we do possess, namely, the analogy with the better known art of Egypt, shows that the reverse is more probably the case. In Egypt we can follow in great detail how such small, originally independent groups are added one to another if action by a number of people has to be pictured. This method occurs on the slate palettes and early tomb reliefs, and still prevails in the unique battle scene of Inti's tomb (Petrie, *Deshasheh* [London and Boston, 1898] Plate IV); but then, in the mastabas of the 5th dynasty, a massed formation of figures is attempted, and peculiar and highly remarkable aesthetic formulas are found as a solution of the problem (Schaefer, *Von aegyptischer Kunst*, 3d ed. [Leipzig, 1930] pp. 191 ff.).

Unsound also is the comparison of small engraved pieces of inlay, which may rank as miniatures, with large carvings in alabaster; no opinion as to the relative dates of these monuments should be given on such a basis. A special difficulty in all attempts to trace a development of art forms during this period is caused by the circumstances wherein so many of the smaller objects are found. They generally turn up in so-called "foundation deposits," which are really dumps of objects found in the precincts of a ruined sanctuary or anciently discarded as obsolete; these were buried together and so remained with the god to whom they had once been consecrated. It is obvious that such deposits can contain objects of different dates, as these might have been kept for any length of time in the temple before being put underground. Such difference of age is, for instance, very clear at Telloh (De Sarzec, *Découvertes en Chaldée* [Paris, 1884–1912] I 409) but also at Susa and Byblos. The late Dr. Hall rightly explained in this way the bronzes, pillars, inlaid friezes, and other objects which he found neatly aligned in the ground outside the platform of the temple at al-ʿUbaid. Mr. Woolley is therefore mistaken in applying every single piece of decoration which was found there to the one temple wall which overlooks the place of the deposit; and his curious result, in which one wall would be overloaded

Institute's excavations at Khafaje in 1930/31 Dr. Preusser found ornaments known from Ur and pottery known from Kish Cemetery A in the same graves and buildings. Of the pottery, at least the characteristic "goddess-handles" are known from Susa also, where tools like those from Ur and Kish also are found.[1] While this takes us to the extreme southwest, the extreme north is represented at Tepe Gawra, where the same types of tools and cylinder seals appear[2] and where I picked up in 1930 pottery with the distinctive painted designs or marks which occur in the temples H and G at Assur.[3] Most curious perhaps is the proof afforded by a relief plaque which was found in fragments at Khafaje and which can be completed by inserting a cast of part of a fragment from a similar plaque found at Ur and now in Philadelphia.[4] We may omit here a discussion of the resemblances in statues and reliefs found at various places from Assur southward. Much, no doubt, can be added to this list after the final publications appear. The pottery, for instance, for well known reasons a reliable guide, but which cannot be judged at all from the preliminary reports, may help us to distinguish early and late stages within this main period. At Kish, for example, it is clear that the tombs found below the "red stratum" are earlier than those of Cemetery A; yet both groups present similarities with the royal tombs at Ur, and we at least must confess to being unable at the moment to effect any finer distinctions within the period.[5] This period as a whole is limited,

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with ornamentation and all the others bare, should not be taken as reflecting the ancient conditions. In any case, this circumstance makes it difficult to obtain a series of works of art which is certain to show the development over a period of time; yet the existence of such a series is the *conditio sine qua non* for the application of stylistic criteria for dating purposes. See also note 5 below and p. 6, n. 2.

[1] See Appendix IV.

[2] American Schools of Oriental Research, *Annual* IX (1929) 17–94.

[3] Andrae, *Die archaischen Ischtar-Tempel in Assur* (Leipzig, 1922) Plates 23–25.

[4] See our Table II, top figure under "the horse"; also "Oriental Institute Communications" (hereafter abbreviated to *OIC*) No. 13, Figs. 44–45 (the latter from *Antiquaries Journal* VIII [1928] Plate V).

[5] A very important division point in the period would ensue if we could accept Mr. Woolley's interpretation of a layer which he maintains in his last report stretched unbrokenly over the whole cemetery, though this has now, of course, disappeared as a result of several seasons' excavations (*Antiquaries Journal* X [1930] 326). In this layer tablets and seal impressions of the 1st dynasty of Ur were found. It does not follow, however, that the cemetery is of necessity earlier. The

for the viewpoint adopted in this paper, on the one hand by the new style of art of the dynasty of Akkad, and on the other by the equally distinctive remains of the preceding Jemdet Nasr period.

If the individuality of the early dynastic period is thus established, we have to ask whether it is to be called Sumerian. No other phase of Mesopotamian culture can be so designated with greater justification. The inscriptions prove not only that the Sumerians were in the land, but also that they predominated. Yet the population was of mixed descent. Andrae was the first to note the existence of different racial types among the early dynastic statues which he found at Assur, and since then finds at Khafaje (Fig. 1) have confirmed his impression.[1] Moreover, the actual skulls found in the graves of this period seem to point in the same direction.[2] Those found at al-ʿUbaid are all dolichocephalic and, in fact, "Mediterranean." At Kish the material seems to point throughout to a mixed population; it shows at the beginning of our period a predominance of brachycephali, which rapidly decreases so that in the later graves contemporary with Cemetery A and in that cemetery itself the dolichocephali are in the majority. Professor Langdon explains this change by assuming that the Sumerians were the brachycephali and were gradually swamped by the incoming Semites.[3] But it is essential for an unprejudiced inquiry into our present problem, namely, whether any stage of material culture in Mesopotamia can be proved to coincide with the arrival of the Sumerians, to remember not only that Professor Langdon's conclusion is unproved, but furthermore that an equally adequate explanation of the anthropological observations may be found if we assume that the brachycephalic element had entered in the preceding period and was now absorbed by the old stock. Whether either of these has to be called Sumerian remains to be seen. An analysis of the evidence re-

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tombs certainly had some superstructure (so also *ibid.* VIII [1928] 4), and the top layer may well represent the weathered remains of these buildings above ground. In any case it is impossible without very strong reasons indeed to separate the contents of the royal tombs from either the 1st dynasty remains at al-ʿUbaid or those of the Urnina dynasty at Lagash. See now also the critical discussion of Mr. Woolley's successive statements by Christian and Weidner in *Archiv für Orientforschung* VII (1931) 100–112. For subdivisions of the early dynastic period see Landsberger in *Orientalistische Literaturzeitung* XXXIV 115–36.

[1] *Die archaischen Ischtar-Tempel*, Plates 43 and 47 *a–d* and p. 8.

[2] See pp. 41–42.

[3] *Journal of the Royal Asiatic Society*, 1930, p. 609.

garding the early dynastic period merely reveals that the population was mixed physically but that the Sumerian element was culturally dominant.

K. 589 K. 219

FIG. 1.—THE ARMENOID AND MEDITERRANEAN TYPES OF MAN AS REPRESENTED AT KHAFAJE IN THE EARLY DYNASTIC PERIOD

THE JEMDET NASR PERIOD

On a hill 17 miles northeast of Kish Professor Langdon found the most comprehensive group of remains which we yet possess of this period.[1] A big building of small rectangular mud bricks contained

[1] Mentioned in Langdon, *Ausgrabungen in Babylonien seit 1918* ("Der Alte Orient" XXVI [1927]) pp. 67 ff. Later, while this paper was in press, Field Museum of Natural History published as Vol. I, No. 3, of its "Anthropology

semipictographic inscribed tablets, cylinder and stamp seals, some flat copper tools, and a large quantity of pottery, some of it with polychrome decoration. Since the hill seems not to have been occupied afterward, we may well name the period after this site. The characteristic pottery and seals or seal impressions occur at Ur, Kish, and Erech, and also at Assur and Fara, in layers just underneath those with early dynastic remains. At Susa they seem to be contemporaneous with the proto-Elamite tablets, which also agree in shape (but not in script) with those from Jemdet Nasr and Erech. Pottery vases in animal shapes are found in this period at Jemdet Nasr[1] and Susa.[2] Alabaster theriomorphic vases are regularly considered to belong to this period, but Dr. Jordan has found one at Erech[3] which belongs to the preceding period. As they survive, however, into early dynastic times, one may take it that they were in use throughout the Jemdet Nasr period. Here also seems to belong a magnificent steatite carving of a wild boar, found at Ur (Table I).[4]

But by inference we can increase the number of objects belonging to this period. The Blau monuments[5] are connected with the Jemdet Nasr tablets by the script as well as by certain peculiarities in the drawing of the figures, which, as M. Thureau-Dangin first saw, connect them with Jemdet Nasr seal impressions.[6] But the Blau monuments in their turn can hardly be separated from some other curious

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Memoirs" a careful account of the objects from Jemdet Nasr by Mr. Ernest Mackay. Since Mr. Mackay did not direct the excavations and cannot relate the circumstances in which the objects were found, it is impossible to decide whether some of them, such as the pots of his Pl. LXIV 11–12 and perhaps Pl. LXVII 22–23 and the clay sickle of Pl. LXXVI 11, which are known from the Uruk and al-ʿUbaid periods respectively, represent types surviving from earlier stages of civilization into the Jemdet Nasr period, or whether they are relics of an earlier occupation of the mound. The latter explanation seems to the present writer by far the more probable.

[1] *Antiquaries Journal* VIII, Plate XLI, or *Reallexikon der Vorgeschichte* XIV (1929), Plate 43Do.

[2] "Mémoires de la Délégation en Perse" XIII (Paris, 1912) Plate XXX 9.

[3] *Dritter vorläufiger Bericht über . . . . Uruk . . . .* ("Abh. der Preuss. Akad. der Wiss.," 1932, Phil.-hist. Kl. Nr. 4) Plate 18.

[4] *Antiquaries Journal* X 333 and Plate XLI *b*.

[5] L. W. King, *A History of Sumer and Akkad* (London, 1916) plate opposite p. 62.

[6] *Revue assyriologique* XXIV (1927) 23–29.

monuments which would ill fit the early dynastic period, but which we may now confidently call contemporaneous with Jemdet Nasr. A sculptured stone vase from Khafaje in a dealer's hands, a large though fragmentary cylinder seal in the Louvre,[1] and also the "*personnage aux plumes*" from Lagash[2] render the skirt as in the Blau monuments. The Khafaje vase takes with it a fragmentary stone vase in the British Museum and also the fragments of another, now in the Oriental Institute's collections at Chicago (No. A 195), found at Bismaya[3] and long a puzzle to Assyriologists, which shares with the "*personnage aux plumes*" the feather headdress. The last-named monument seems to be a little later than the Jemdet Nasr tablets, according to those able to judge the paleography, and to take a position intermediate between these and the earliest inscriptions of the early dynastic period. This emphasizes an important point, namely, that many features connect these two periods (cf. Table II). It seems probable to the present writer that the long skirt shown crosshatched on the monuments just enumerated and the long tasseled skirt of early dynastic monuments are one and the same, only rendered according to different conventions, for the vertical seam in front is shown sometimes in the skirt with tasseled edge, and the length is the same throughout.[4] On

[1] *Catalogue des cylindres, cachets et pierres gravées de style oriental,* par L. Delaporte, II (Paris, 1923) Pl. 69, No. 8 (A. 116).

[2] De Sarzec, *Découvertes en Chaldée* (Paris, 1884–1912) II, Plate 1 *bis;* cf. our Table II.

[3] Banks, *Bismya,* pp. 267 f., and Weber, *Mitteilungen der Vorderasiatischen Gesellschaft* XXII (1917) 391 f.

[4] [DRESS] The problem of Sumerian dress is exasperatingly difficult, and even Mrs. E. Douglas Van Buren's exemplary study (Liverpool *Annals of Archaeology and Anthropology* XVII [1930] 39–56) does not in our opinion solve all difficulties. We feel inclined to see in the flounced dress one made of sheepskins, and to think that the plain skirt with a row of tassels at the lower edge represents, as Andrae suggests, the same garment worn with the wool inside. Mrs. Van Buren's statement that this is uncomfortable will be denied by all who, like the present writer, counted a *farua* among their most cherished possessions while traveling in Iraq in the winter. Mrs. Van Buren's suggestion that the tasseled edge renders a skirt cut into tabs which are scalloped at the end does not take into account that in a Mesopotamian winter one needs protection against biting winds more than anything else. Otherwise the inlaid figures from Kish, wearing the skirt tucked into the girdle in front to free the legs, would, with their long vertical striping of the skirt up to a certain height, support that view. The explanation of the tasseled skirt as a fleece would at the same time account for the absence, in the sculptures,

the vase from Khafaje, for instance, the crosshatched skirt shows the same heavy roll round the waist which is shown sometimes with tasseled skirts[1] and which Professor Andrae explains as an extra length of material which could be pulled up to cover the shoulders.[2] One suspects that the same garment is indicated in the inlaid figures from the early palace in Mound A at Kish and on some clay plaques from Fara, where the skirt is rendered neither with crosshatching nor with tassels, but with vertical lines. The skirt is taken up in front and tucked into the girdle to free the legs in their movement; the heavy roll of material round the waist is perhaps shown here also.[3]

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of the lateral opening visible when the skirt is worn with the smooth leather outside (the plain skirt with tasseled edge of the sculptures) but hardly when the wool is turned outward; or perhaps Mrs. Van Buren is right that the skirt had no opening but was pulled over the head and shoulders down to the waist, in which case there would be a seam on the leather side which, by analogy with modern sheepskin clothes, would be decorated with brightly colored wool and therefore be so striking a feature that it could not be omitted in the sculptures. It is not quite correct to state (Van Buren, *op. cit.*) that the skirt with tasseled edge never shows this, in contrast with the plain skirt (e.g., De Sarzec, *Découvertes en Chaldée* II, Plate 6 *ter*, No. 4). The objection (Van Buren, *op. cit.* p. 46) that the tasseled skirt cannot represent a fleece because this, when admittedly represented, looks different is also subject to some qualification. It is only as a plaid worn across the breast by soldiers that the fleece certainly occurs; and then there are sharp wavy tufts of wool. It seems to me that we have to deal with two stylizations of one and the same thing, but used to differentiate two uses of the sheepskin and therefore making for clearness in the representations. For in one instance at least the stylization usually employed in rendering the skeepskin plaid is used for a tasseled skirt (De Sarzec, *op. cit.*, Plate 46, No. 1), while on the other hand live animals are not pictured with the wavy tufts. Sometimes (*ibid.*, Plate 6 *bis*, No. 3, and similarly plaques from Nippur and an unpublished monument from Khafaje) the surface of the animal's body is divided into unbroken vertical wavy stripes; sometimes, as in the statues of goats from Ur which Opitz thought to be proof positive of the identification of the "*Zottenrock*" with the fleece (*Archiv für Orientforschung* VI [1930–31] 19–21), the coat of the animal is rendered not with the sharp wavy tufts of the plaids but with the stiff straight "tassels" of the tasseled skirt. We do not pretend that the identification is definitely proved, but believe that it is the most likely explanation if the climate and the materials available in Iraq are taken into account; and we must confess that Andrae's proposition to consider it as a piece of cloth with leaves stitched on seems to us a little incongruous with either.

[1] E.g., De Sarzec, *Découvertes en Chaldée* II, Plate 1 *bis*.

[2] *Die archaischen Ischtar-Tempel*, p. 13.

[3] Field Museum of Natural History, "Anthropology Memoirs" I (1925–31), Plate XXXV; Heinrich and Andrae, *Fara* (Berlin, 1931) Plate 27 *d*.

In addition to the probability that the dress worn in the early dynastic and Jemdet Nasr periods was identical, there is the certainty that hair and beard were worn in the same style (Table II). While Eannatum's stele of the vultures and Meskalamdug's gold helmet show that long hair was tied in a knot at the back of the head and that the shaved polls on most of the monuments are due to the priestly functions of the people portrayed, the new finds at Khafaje support the evidence of such rare statues as that of Lugalkisalsi, king of Ur and Erech,[1] that the knot may have been customary in battle or in other actions but that in ordinary life the hair was worn in long locks and was parted in the middle and flowed down over shoulders and back.[2] We find a similar variety in the Jemdet Nasr period. The Blau monuments, alleged to have been found somewhere near Warka, show this same knot at the back of the head and a long beard; but on the other side of the same plaque we see a man with shaved face and head but wearing a skirt identical with that of the bearded figure. The Khafaje vase, the "*personnage aux plumes*," and the vase from Bismaya show either long locks or pigtails.[3] But in all cases when the beard is worn long the upper lip is shaved.[4]

[1] *Amtliche Berichte aus den k. Kunstsammlungen* (Berlin) XXXVI (1914–15) Figs. 78–80.

[2] Similarly in De Sarzec, *Découvertes en Chaldée* II, Plate 6 *bis*, No. 2, and Heinrich and Andrae, *Fara*, Plate 24 *d*. For Khafaje see *OIC* No. 13, Figs. 25 and 32.

[3] [HAIRDRESS] It is impossible to decide whether a pigtail or loose locks of hair are represented, either on the vases which we here discuss or, similarly, on such early dynastic monuments as the inlays from Palace A in Kish or the "*base circulaire*" from Lagash. At Khafaje one large copper statuette shows a man with shaved head and a long curly lock on either side hanging down in front of the ear. Two smaller figures, found with the first, show long hair hanging down to the nape

[Footnote 3 continued on next page]

[4] Mötefindt (*Zur Geschichte der Barttracht im alten Orient* [Leipzig, 1923] p. 39) observes that this curious combination of long beard and shaven upper lip survives today in Somaliland and southern Arabia only. But his conclusion that its occurrence on the ancient monuments may characterize Semites is disproved not only by his own observation that the Semites in Arabia do not follow the custom but also by the results of Mr. Bertram Thomas' explorations, which establish beyond a doubt that the population of southern Arabia can neither linguistically nor somatically be classed as "Semitic," but represents another very ancient ethnic element (*Arabia Felix* [New York, 1932] Appendix I, pp. 301 ff.). For the type of hairdress under discussion see Figures 12, 14, and 16 of that Appendix. Cf. also our p. 44, end of n. 3 (on p. 45), and, for its occurrence in India, p. 29.

Other features also of the Jemdet Nasr period survive into the next.[1] Such are the seal designs, among which animals in rows, especially goats, are common. The use of theriomorphic alabaster vases continues; and it is probably pure chance that we cannot yet prove the use of multiple vases for the Jemdet Nasr period. In an undisturbed burial, rich in polychrome pottery, which was found at Tepe Ali Abad near Susa, there were also found two tesselated pillars similar to those from the 1st dynasty temple at al-ʿUbaid.[2] And not only personal appearance and material culture in the two periods show common features: the language of the tablets from Jemdet Nasr is definitely Sumerian;[3] and the occurrence of certain titles and of names of purely Sumerian gods shows that, in whatever respects the Jemdet Nasr period may differ from the early dynastic (as in the use of a very distinctive painted pottery and of a different kind of mud brick), such differences cannot be explained by assuming that the Sumerians were not yet in the country during the earlier of the two periods.[4]

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of the neck; while alabaster figures from Khafaje, presumably contemporaneous with the copper ones, show long locks hanging down on the back and in front of the shoulders. All these men wear long beards but no mustaches. To return to the vases of the Jemdet Nasr period, whenever the hair is gathered up in a knot at the back of the head, a fillet is worn round it, as is the case on Meskalamdug's gold helmet and on the stele of the vultures. Mr. Woolley observed at Ur that this fillet seems to consist, in the case of rich persons, of a gold chain with two or three faceted oblong beads of gold or lapis lazuli in front (*Antiquaries Journal* VIII, Plate VIII 2 *a* and *b*, opp. p. 22). Mr. Woolley's further conclusions are not justified. Even if the fillet could be compared with the Arab *aghal*, it would not mean that the Sumerians wore a headcloth underneath it and shaved their heads. The first assertion is belied by the non-Arabic-speaking tribes of central southern Arabia which Mr. Bertram Thomas has described, the latter assertion by the modern Syrians. And if the somewhat doubtful evidence which Mr. Woolley has for the use of wigs be accepted, it would not explain the variety of hairdress at all; for most persons figured on the monuments, and not merely those with shaven heads (the alleged wearers of wigs), are shown in some ceremonial act.

[1] See our Table II.

[2] "Mémoires de la Délégation en Perse" VIII (Paris, 1905) 73 ff. and Fig. 105.

[3] "Oxford Editions of Cuneiform Texts," ed. S. Langdon, VII (1928); C. Frank in *Orientalistische Literaturzeitung* XXXIII (1930) 438.

[4] It is doubtful whether copper-casting *à cire perdue* was practiced in this period. Professor Childe's affirmations (*The Most Ancient East* [London, 1928] pp. 152 ff.) are based on the incorrect assumption that the Susa hoard and all the finds from Tepe Ali Abad belong to the Jemdet Nasr period. It is true that the excava-

THE URUK PERIOD

It is entirely due to the work of Dr. Jordan at Warka that we now know that two distinct periods separate the Jemdet Nasr stage from the beginning of things in Mesopotamia. Both at Susa and at Ur two curious types of pottery had been found intermingled with the latest

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tors did not separate the various periods, nor could they be expected to do so in all cases, at the time of their explorations. But a careful perusal of their reports suggests that at Tepe Ali Abad, as at Susa, occupation continued into the early dynastic period. Though the undisturbed burial mentioned on page 15 forms a unit by itself and can therefore be dated, the tools and other finds from the cemetery are not given in tomb groups but are combined in the figures, and may therefore derive from graves of both periods. The hoard found at Susa in a painted pot, and soon to be published by M. de Mecquenem, is of early dynastic date. See Appendix IV.

The copper bull's feet found by Mr. Woolley in his Seal-Impression Stratum IV and therefore assigned by him to the Jemdet Nasr period (*Antiquaries Journal* X 327) are admittedly indistinguishable from those of the 1st dynasty temple at al-ʿUbaid and therefore most likely also belong to the early dynastic period. As graves of that period were dug into the seal-impression stratum, their presence would not be difficult to account for. Another object which some reader might have expected to find included in our account of the Jemdet Nasr period is a painted clay head from Kish. (See the photograph published by M. Watelin in *Journal asiatique* CCXV [1929] in comparison with the much restored drawings usually reproduced.) It was found above the "red stratum" in layers with early dynastic remains, and there is not the slightest reason to date it to any other period; though it *may* conceivably be earlier, this cannot be proved for lack of material to compare it with. In any case Professor Langdon's argumentation for an earlier date (*Journal of the Royal Asiatic Society*, 1930, p. 610) does not hold good; the fact that pot-painting was no longer practiced in early dynastic times is entirely irrelevant. Painting of terra cotta sculpture is independent of pot-painting and is, in fact, proved to have been practiced in that period by the finds in the earliest Ishtar temple in Assur (Andrae, *op. cit.*, Plates 27 and 28).

Perhaps the importance of Dr. Speiser's *Mesopotamian Origins* (Philadelphia, 1930) should be acknowledged here by the admission that we are fully aware of the differences which exist between our account and the one given in his chapter iii, which deals with archeological material. But, except in a few cases, it seemed unnecessary to register these differences, because they are almost all due to recent discoveries which could not yet have been known to Dr. Speiser when he wrote his remarkable book. Thus, for instance, he (as also Professor Christian) interprets the use of flat bricks at Jemdet Nasr as indicating a later date than the plano-convex bricks of early dynastic times; whereas Dr. Jordan has proved (and the finds at Ur agree with his at Warka) that these particular oblong bricks (*Riemchen*) precede the plano-convex bricks. But these corrections do not affect the main value of Dr. Speiser's work, which lies, of course, in his handling of the complicated philological material. For the racial and linguistic affinities of the bearers of the Jemdet Nasr culture, see page 43, end of note 1.

stage of the al-ʿUbaid period and also in higher layers. Only at Warka did it become clear that this pottery belongs to a period of marked individuality and immense importance, a stage of Mesopotamian culture during which both monumental architecture and writing were apparently invented.

As to architecture, the materials used in this period are remarkably varied. Small oblong unbaked bricks, large ones over 50 centimeters long, and moreover, at Erech, Ur, and Muraijib,[1] cement bricks occur. At Erech stone was used for the foundations of a large temple.[2]

This period is represented throughout the country. Its pottery is found at Tepe Gawra in the far north, at Nineveh, Kish, Ur, Erech, and Telloh, and at Susa in the southeast,[3] while an alabaster bird-vase found at Erech[4] suggests that similar pieces from Susa should be put here. At Susa a copper adz belongs perhaps to this period.[5] The stamp seal is also in use, and on the tablets with pictographic script found at Erech there are impressions of cylinder seals. Now that we know that writing was most probably invented in this period and that Susa shared with Mesopotamia this stage of civilization, we need not wonder, remembering the wide margin of variation which pictographic writing allows to conventionalization, that the simplified signs of the proto-Elamite and the Jemdet Nasr tablets are different, even though it seems highly probable that they are based on the same original invention.

A precious seal impression from Erech (Table II) shows that even

[1] *Antiquaries Journal* X (1930) 339.

[2] This is not such an exceptional feature in Sumer as is often thought. The platform of the temple at al-ʿUbaid, for instance, had a rough limestone retaining wall (Hall and Woolley, *Al-ʿUbaid* [Oxford, 1927] Plate XXIV 1).

[3] Complete pots of this period are unfortunately rare. Very typical is a small, finely made, squat gray pot with four lugs, often connected by an incised, cross-hatched band (see Table I). Such pots have been found at Ur (*Antiquaries Journal* IX [1929] 348), at Kish (now in the Ashmolean Museum), at Susa ("Mémoires de la Délégation en Perse" XIII, Plate XXXII), at Fara (Heinrich and Andrae, *Fara*, Plate 18*i*), at Jemdet Nasr (Field Museum, "Anthropology Memoirs" I, Plate LXIV 11–12), and, as M. Parrot kindly informs me, at Telloh also. Another type of pot, found at the sites enumerated in our text, is a rough bowl with thick walls, beveled at the rim (see our Table I). The fine gray pots are often decorated with series of fingernail impressions.

[4] Jordan, *Dritter vorläufiger Bericht über . . . . Uruk*, Plate 18.

[5] "Mémoires de la Mission archéologique de Perse" XX 104, Fig. 4.

in this period the long skirt, the long beard, the shaved upper lip, and the knot of hair at the back of the head were the fashion alongside the shaved head and face.[1] If we add to this that writing on clay tablets, sealing with stamp and cylinder seals, building with mud bricks, and decorating walls with baked-clay cones or with vertical grooves (recessed building) represent as many processes which continue from this period down to early dynastic days, and that even ziggurats crowned with temples were erected for the worship of the gods,[2] then it seems certain that even this early stage of Mesopotamian civilization is Sumerian. It is true that history shows how Mesopotamian civilization survives, unchanged in essentials, the absorption of newcomers into its population. But if in the present instance we should assert that the Sumerians arrived *after* the Uruk period and that the features just enumerated are due to a pre-Sumerian population, the rôle of the Sumerians in the formation of Mesopotamian culture would become so utterly insignificant as to make the proposition untenable.

The following alternatives, then, remain: Either the Sumerians arrived at the beginning of the Uruk period and are responsible for those features which differentiate it from the preceding al-ʿUbaid period, or the Sumerians were the creators of the al-ʿUbaid culture and hence the earliest settlers in the land. Let us therefore proceed to review the remains of the al-ʿUbaid period.

THE AL-ʿUBAID PERIOD

Not only at Ur, but also at Susa, Tepe Khazineh,[3] Samarra,[4] and Warka, the remains of this period are found on virgin soil, so that there is no doubt that we have to deal here with the civilization of the immigrants who settled in the valley of the Two Rivers when it had dried sufficiently to become inhabitable.[5] That they came from the eastern

[1] Jordan, *Zweiter vorlaüfiger Bericht über . . . . Uruk*, Figs. 34–35.

[2] For all these matters see Jordan's description of the fourth and fifth archaic layers at Erech and of the "white temple" on the early ziggurat, *ibid.* pp. 29–52 and *Dritter vorläufiger Bericht über . . . . Uruk*, pp. 5–31.

[3] "Mémoires de la Délégation en Perse" VIII.

[4] Ernst Herzfeld, *Die vorgeschichtlichen Töpfereien von Samarra* ("Die Ausgrabungen von Samarra" V [Berlin, 1930]).

[5] During the winter of 1930/31 microlithic implements were reported from Kish, whereas they are unknown at Ur; M. Watelin (*L'Anthropologie* XLI [1931] 265–72 and *Archives suisses d'anthropologie générale* V [1931] 313–20) explains this by the

mountains is shown by the discovery of their civilization there in a stage of development earlier than any known in Mesopotamia proper. This conclusion, which we made in 1924 on the basis of stylistic criteria, has now been confirmed by M. de Mecquenem's discoveries, for he found the stage corresponding with al-ʿUbaid actually overlying that called "Susa I" (cf. Appendix IV). Even in this very early period copper tools were used on an unexpectedly large scale, whereas in Egypt, for instance, copper did not come into such extensive use until the 1st dynasty; in both cases it was cast in open molds only.[1] Flint, obsidian, and rock crystal also were largely used for smaller tools; in Mesopotamia proper these materials had, of course, to be imported no less than copper or ores. The clay models of tools with a shaft-hole found at al-ʿUbaid, Ur, and Lagash[2] are probably imitations not of copper, but of stone, originals; for it seems highly doubtful that casting in closed molds, which such implements would require, was known earlier than the early dynastic period, and a stone hammer ax with a shaft-hole has, indeed, been found at Ur.[3] Writing was not known in this period, though stamp seals were used,[4] but perhaps as yet only as amulets or at least to protect certain objects with impressions of efficacious magical designs. Monumental architecture apparently did not exist; at Ur actual evidence was obtained that the first settlers lived in reed huts in the marshes of the plains.[5] But important for our present purpose is Andrae's recent demonstration that many features of Sumerian and Babylonian architecture can be understood only if we suppose that they developed from just such a method of building as has here

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hypothesis that here and there islands existed and were perhaps inhabited before the valley as a whole became dry. Even if this is a correct interpretation, the al-ʿUbaid stage of civilization remains the first which is characteristic for the whole country.

[1] Mirrors, axes, needles, and chisels at Susa ("Mémoires de la Délégation en Perse" XIII, Plate XLIII and Figs. 27–34), a large harpoon at Ur (*Antiquaries Journal* X, Plate XLVII *b*). See our Table I.

[2] *Antiquaries Journal* X, Plate XLVII *a*; De Sarzec, *Découvertes en Chaldée* II, Plate 45, Figs. 5–6. It is, of course, not certain that these latter belong to the al-ʿUbaid period.

[3] *Antiquaries Journal* X 338. See our Table I.

[4] "Mémoires de la Délégation en Perse" XIII, Figs. 25 and 25 *bis;* Jordan, *Dritter vorläufiger Bericht über . . . . Uruk,* Plate 19, top.

[5] *Antiquaries Journal* X 335.

been found in use by the earliest settlers of Ur.[1] Thus their unpretentious architecture becomes yet another argument for the continuity of culture from the earliest period down to historical times; and we should add to this at once that clay cones, the use of which as architectural decoration and protective revetment of mud walls has become clear by Loftus' and Jordan's discoveries at Erech,[2] existed already in this period. The pear-shaped stone macehead also was in use. In all probability the horse was known (cf. Table II); for a drawing on a bowl from Susa I, which suggests to every unprejudiced observer a horse, is proved to represent one if we remember that in the pictographs from Jemdet Nasr and Susa the horse is differentiated from the ass by its mane, which on the Susa I bowl is indicated in precisely the same manner as in the signs, though it is made to fringe the whole back of the animal decoratively.[3]

The features which connect the al-ʿUbaid with the certainly Sumerian period, and which we have just enumerated, concern technical processes or material equipment only; and these, of course, might have persisted, even if the Sumerians had not arrived till the succeeding period. More decisive is Dr. Jordan's discovery of male figurines belonging to this period which show the long beard, shaved upper lip, and knot of hair at the back of the head that characterized the people figured on the monuments throughout the succeeding periods.[4] It is important to remember that such figures cannot be considered to

[1] *Das Gotteshaus und die Urformen des Bauens im alten Orient* (Berlin, 1930).

[2] Loftus, *Travels and Researches in Chaldaea and Susiana* (London, 1857) pp. 187 ff.; Jordan, *Zweiter vorläufiger Bericht über . . . . Uruk*, pp. 14 ff.

[3] "Mémoires de la Délégation en Perse" XIII, Plate II 2; "Oxford Editions of Cuneiform Texts" VII (1928) No. 129 in sign list, to be contrasted with No. 130; "Mémoires de la Mission archéologique de Perse" XVII (Paris, 1923) Nos. 1396–1404 in sign list. In Table II we show also how the ass is rendered in the pictographs (the figure drawn in a circle). It is clear that ass and horse are distinguished in form as well as by the addition of the "mountain" ideogram to the latter.

As to the horse in the early dynastic period, Mr. Legrain has drawn attention to a rider on a gold diadem from Ur (*Museum Journal* XIX [1928] 381). But most decisive is the evidence of a relief from Ur (*Antiquaries Journal* VIII, Plate V), since it can be completed with the aid of a similar relief found at Khafaje; see top figure in the relevant column of our Table II and *OIC* No. 13, Figs. 44–45.

It should be remembered that the horse is found as a domestic animal in the first settlement at Anau, which may be approximately contemporaneous with Susa I (see pp. 32 f. and 30 f.).

[4] Jordan, *Dritter vorläufiger Bericht über . . . . Uruk*, Pl. 21 *c;* cf. his p. 27.

represent a constant but pre-Sumerian strain in the population of the later periods; the very fact that these people are continually pictured on the monuments shows that they were the dominant element in the civilization of the time. Since we have found them to be Sumerians in the early dynastic period, we must take them to be Sumerians in the earlier periods also.

One would naturally like to go yet one step farther and to demonstrate that not only matters of appearance and technical processes, but also elements of the spiritual culture, continued in Sumerian times, before asserting that the people of the al-ʿUbaid period were Sumerians. But this is obviously well nigh impossible in dealing with an epoch which lacks both writing and monumental architecture. Two arguments, however, are in favor of the view. Mr. Gadd has pointed out how the interments of this period at al-ʿUbaid round the place where in early dynastic times stood the temple of Ninharsag, when considered in conjunction with the peculiar character of this goddess, make it highly probable that she was worshiped already in the al-ʿUbaid period.[1] And at least one of the non-geometric motives on the pottery of Susa I is likely to be a religious symbol, for neither is it an ambiguous design such as the flying bird, which can never be proved for certain to be Imgi,[2] nor has it any decorative value in itself. That is the triangular shovel, the *marr*, still in use in Sulaimaniyyah and farther north, which, as M. Thureau-Dangin has shown, symbolizes Marduk.[3] Taken all together, the evidence seems to us definitely in favor of the view that the Sumerians were indeed the earliest settlers in Mesopotamia.

At this stage of our inquiry we must once more safeguard its impartiality by refuting a fairly prevalent view according to which the Sumerians cannot be the first inhabitants of Mesopotamia because some of the oldest cities have non-Sumerian names; it is often assumed that they retained these from pre-Sumerian days.[4] Now this

[1] *History and Monuments of Ur*, p. 17.

[2] See Thureau-Dangin in *Revue d'assyriologie* XXIV (1927) 199–202 and Frankfort, *Studies in Early Pottery of the Near East* I (London, 1924) 46, n. 4.

[3] Thureau-Dangin, *op. cit.* Cf. *Zeitschrift für Assyriologie* XXXVII (1927) 93, n. 2.

[4] Speiser, *Mesopotamian Origins*, pp. 38 ff. The objection to Dr. Speiser's brilliantly defended thesis is that he has to bring the Sumerians into the country sur-

identification of "non-Sumerian" with "pre-Sumerian" stands very much in need of proof, for it is by no means the only possible explanation of the observed facts. The names are equally well accounted for if we assume that these cities were renamed or even founded at a time when the Sumerians, though in the country, were outweighed in the region in question by other ethnic elements.[1] The presence of non-Sumerian groups at all times is to be expected, not only because of the analogy with historical times when new immigration took place regularly at intervals of a few centuries, but also because of the differences which exist between the four successive stages of Mesopotamian culture and which we should not forget, though more concerned at present with their similarities. Moreover, it is probable that a number of cities were not founded until the Uruk period, for in the preceding age we have no proof of monumental architecture, and each settlement would at best have consisted of a collection of reed huts protected by an earthen rampart such as the first "city" of Susa revealed.[2]

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reptitiously, as it were, and from nowhere (pp. 84, 147, 152); for he takes the earliest inhabitants to be Elamites and the Jemdet Nasr period to represent a Hurrian invasion, while the Uruk period was not yet recognized when he wrote. On the other hand Dr. Speiser's argument that phonetic changes in Sumerian, and more precisely the contrast between EME.KU and EME.SAL, were due to a foreign, Japhethite population borrowing and speaking this language (pp. 47 ff., 52 ff.) holds good, if it is agreed, as we maintain, that these Japhethites entered Mesopotamia in the Uruk period. Here again "non-Sumerian" need not at all mean "pre-Sumerian"; the argument itself we are not competent to judge. If philologists were to agree that the foreign names of Sumerian cities are Elamite, we must point out that this would be an argument in favor of their having been founded in the Uruk period. Neither the al-ʿUbaid nor the Jemdet Nasr period is Elamite, for the former culture extends much farther east and the latter does not enter the mountains at all but reaches only as far as Susa, while for neither of these two periods, to judge by the geographical distribution of their distinctive features, should we claim an Elamite or any other Japhethite language. We should, however, do so for the bearers of the civilization which came into Mesopotamia with the Uruk period. As for the Semitic influence on Sumerian claimed by Poebel (*Zeitschrift für Assyriologie* XXXIX [1930] 149, n. 2), see our pp. 43–44.

[1] In the discussion of this paper Professor Meek drew attention to the fact that the incoming Hurrians changed the Sumerian name of Nuzi (modern Tarkhalan, near Kirkuk) in the last centuries of the 3d millennium B.C., thus affording a clear historical parallel for what might well have happened in the Uruk period.

[2] So it seems (unless one evades the decision with a *non liquet*) that neither Fara nor Kish was founded until the Jemdet Nasr period. Cf. pp. 4 and 49.

The last consideration illustrates the peculiar difficulty which we are encountering, now that we attempt to determine the relation existing between the Uruk and al-ᶜUbaid periods. For in doing so we are no longer dealing with two stages of a fully developed culture, but we are comparing an advanced stage with one which is relatively primitive in character; and the latter may well possess in potentials much of what is characteristic of Sumerian culture afterward, without our being able to recognize the continuity. In the light of this consideration the arguments which we have adduced in favor of continuity gain somewhat in weight. But in any case we have not yet exhausted the available evidence. If we widen the scope of our investigations and consider the differences between the earliest two stages of Mesopotamian culture and their respective relations with foreign regions, we shall be able to judge what an identification of the Sumerians with the bearers of either stage would imply.

RELATIONS WITH THE EAST AND WITH THE NORTH

(CF. FRONTISPIECE)

The first settlers in Mesopotamia came from the east. But it would be a mistake to call the parent stock of the al-ᶜUbaid culture Elamite (cf. p. 21, n. 4), since it is likely that Elam was at that time not populated by Elamite-speaking people and also that it was only a part of the province for which this material culture is characteristic. Recent discoveries leave not the slightest doubt that it predominated on the whole of the Iranian plateau. Sir Aurel Stein, in two journeys of exploration, has traced it in numerous deposits up to the mountain range which borders the Indus Valley on the west.[1] It is, furthermore, found at Nihawend,[2] near Kermanshah,[3] at Urumiyeh,[4] and in the south at Bender-Bushire.[5] Professor Herzfeld has published specimens from

[1] *An Archaeological Tour in Waziristān and Northern Baluchistān* (Archaeological Survey of India, Memoir 37 [1929]); *An Archaeological Tour in Gedrosia* (Archaeological Survey of India, Memoir 43 [1931]).

[2] Pottery from there is in the Oriental Institute's collection in Chicago, in the British Museum, and in the Collection Vignier in Paris. See also Herzfeld, *op. cit.* pp. 8–9.

[3] "Mémoires de la Mission archéologique de Perse" XX 126 ff.

[4] *Zeitschrift für Ethnologie* XXXII (1900) Plate IX.

[5] "Publications de la Mission archéologique de Perse" XV (Paris, 1914).

Persepolis,[1] and earlier explorations of Sir Aurel Stein have revealed its existence in Seistan.[2] The recently increased material has at the same time proved the homogeneity of this cultural province (Fig. 2[3]); for though, as in all early painted wares, the product of each site has a character of its own, in each case analogies with wares from various other sites can be observed.

It is still impossible to say whether at any time the Indus Valley belonged to this cultural province. It is certain that the painted pottery found at Mohenjo Daro shows scarcely any features which could be

[1] *Illustrated London News*, May 25, 1929, p. 892. Dr. Herzfeld's statement that the Persepolis pottery is earlier than even the oldest known strata of Elam and Sumer seems to be based merely on the absence of copper among his finds. Now this *argumentum e silentio*, rarely sufficient by itself to establish the Neolithic character of a deposit, is particularly inadequate in the present instance, since the Persepolis pottery is closely related to that of Susa I, which belongs to the Copper or, if one prefers that term, Chalcolithic Age. Though we must, of course, await the publication of a more detailed report than that now available, it may be said that the stylistic evidence of the pottery published would group it with that from Susa and Samarra as another early variety produced by the Chalcolithic Iranian Highland culture.

[2] *Innermost Asia* (Oxford, 1928) pp. 949 ff.

[3] The objects illustrated in Figure 2 are reproduced from the following publications:

No.	Source
1	"Mémoires de la Délégation en Perse" VIII 110, Fig. 177
2	*Ibid.* XIII, Plate XIV 4
3	*Ibid.* Plate XVII 4
4, 6	*Ibid.* Plate IX 3 and 9
5	*Ibid.* Plate X 8
8	*Ibid.* Plate XLI 6
18	*Ibid.* VIII 115, Fig. 194
7	Frankfort, *Studies* I, Plate III 4
9	*Corpus vasorum antiquorum. France. Musée du Louvre*, par E. Pottier, I (Paris, 1923) Plate XII 47
10, 12–14	Herzfeld in *Illustrated London News*, May 25, 1929, p. 893
11	Herzfeld, *Die vorgeschichtlichen Töpfereien von Samarra*, Plate IX 23
15–17	Pumpelly, *Explorations in Turkestan* I (Washington, D.C., 1908) Plate 35, Nos. 2, 5, and 3
19	Frankfort, *Studies* II 178, Fig. 21 *b*
20	Archaeological Survey of India, Memoir 43, Plate XV
21, 23, 26	*Ibid.* Plate XVII
22	*Ibid.* Plate XVI
24	*Ibid.* Plate XVIII
25	*Ibid.* Plate XIX
27	*Ibid.* Plate XXX
28	*Ibid.* Plate XI
29	*Ibid.* Plate X

Fig. 2.—Diagram Showing the Homogeneous Character of the Iranian Highland Pottery

explained as due to relationship with any Middle Asiatic fabric. On the contrary, Sir John Marshall, who studied and classified Sir Aurel Stein's finds from Baluchistan, discerns Indian pottery penetrating into that country and mixing there with wares of Persian affinities. This is well in keeping with his characterization of Baluchistan:

> Nevertheless, making all allowance for more favourable climatic conditions as well as for the intensive cultivation of every available acre of land . . . . , it yet remains true that Balūchistān could never have been other than a comparatively poor country or other than largely dependent for its culture on the richer and more populous regions that adjoined it—on Sind and the Panjāb to the one side, on Persia and Sīstān to the other, with Mesopotamia in the background further west. This cultural dependence of Balūchistān on her neighbours is illustrated with singular clarity in its ceramic wares.[1]

These wares Sir John Marshall then proceeds to analyze; and we find that he considers as due to Indian influence precisely those features which strike us, who approach Baluchistan from the west, as strange.[2]

As to the affinities of the "Persian" elements, there cannot be a shadow of doubt that these are rooted, as Sir John Marshall and Sir Aurel Stein both recognized, in the Iranian Highland culture with which we are concerned at the moment.[3] This is evident first of all

[1] *Mohenjo-Daro and the Indus Civilization*, ed. Sir John Marshall, I (London, 1931) 96.

[2] These features include a number of designs, but, above all, the predominance of red-faced fabrics in Baluchistan. The exact nature of these wares cannot be discussed until Western students are no longer confined to reproductions but have at their disposal a representative collection of originals. It would seem, to judge from the occurrence of buff, gray, and brown wares alongside the red variety (Archaeological Survey of India, Memoir 47, pp. 28, 49, 89, 159), that the clays and fuels available were determining factors here rather than a development out of blackware technique such as we shall meet in discussing the Anatolian origin of the Uruk wares in Mesopotamia. Such complete contrast, excluding a genetic relationship, as that between the al-ʿUbaid and the Uruk wares in Mesopotamia seems not to exist among the various colored wares of Baluchistan.

[3] We must not confuse the ultimate origin of features with the date of the pottery on which their survival is actually observed. Sir John Marshall has made it abundantly clear that some of the Baluchistan pottery is contemporaneous with the Indus civilization, which we now know, from the Oriental Institute's work at Tell Asmar, flourished in the time of the dynasty of Akkad. But this confirms what we knew already (see Appendix IV), namely, that the comparatively rapid evolution of civilization through various stages in Mesopotamia was not shared by less progressive regions such as the Iranian Highlands, where the civilization which we first meet in Susa I continued to exist for a long time.

in the most distinctive product, the painted pottery. At Shahi Tump,[1] as at Persepolis (cf. Fig. 2), we find a trio of characteristic Susa I shapes: the straight-sided beaker, the hemispherical bowl, and the squat pot; the designs also show similarities in general character and in details. At Kulli, Mehi, and several other sites from which only fragments were obtained, we find at least strong similarities in design between the Baluchistan wares and the somewhat advanced stage of the Iranian Highland civilization known at such sites as Tepe Khazineh and Tepe Musyan and in Mesopotamia.[2]

[1] Archaeological Survey of India, Memoir 43, Plates XV–XIX.

[2] For similarities to Tepe Musyan and Tepe Khazineh see Memoir 43, Plate II N.K.2 and N.K.6; Plate XII Sh.T.16 and Sh.T.19; Plate XXI Kul.1.iv.3–4; Plate XXIX. Other designs provide links with Tepe Gawra (e.g., Memoir 37, Plate VI P.44, P.54, and P.63; Plate XIV D.1–5 and D.W.1,ii.16; Plate XXVI) or Mohammedabad and Nihawend (Memoir 37, Plate V P.31; Memoir 43, Plate X Naz.13) or Cheshme Ali (Memoir 43, Plate XVIII) or Ur and al-ʿUbaid (e.g., Memoir 37, Plate VI P.66; Memoir 43, Plate XII Sh.T.16). A curious triple pot occurs at Shahi Tump (Memoir 43, Plates XI and XIII) and at Susa ("Mémoires de la Délégation en Perse" XIII, Plate XXXII 9). The small pots with ring base in the al-ʿUbaid ware from Ur (*Antiquaries Journal* X, Plate XLV *c*) find parallels at Periano Ghundai, Shahi Tump, and Mehi (Memoir 37, Plate VII; Memoir 43, Plates XVIII and XXIX), where there are also general resemblances to the loose, wavy-lined scheme of decoration of the al-ʿUbaid ware.

The very extraordinary pottery discovered at Nal and excellently published by Mr. H. Hargreaves (*Excavations in Baluchistan 1925, Sampur Mound, Mastung and Sohr Damb, Nāl* [Archaeological Survey of India, Memoir 35 (1929)]) seems to belong, though somewhat more distantly, in the same context; it stands very much apart, but only as might an advanced and independent development from the common basis of the whole Iranian Highland culture. One should compare Hargreaves, *op. cit.* Plate XVII 26–30 (stepped diagonally), with "Mémoires de la Délégation en Perse" XIII, Plates VI 5, VIII 6–7, IX 5 and 9. Cf. also Hargreaves, *op. cit.* Plate XVII 46, with "Mémoires de la Délégation en Perse" XIII, Plate V 9 and Fig. 135. To these one might add numerous comparisons of simpler motives; but those quoted above are particularly significant because they refer to designs which are both distinctive and also of importance for the "syntax" of the decoration as a whole. The chronological position of the Nal ware is not clear; recent discoveries in Sind suggest that it may precede there red-faced fabrics similar to the majority of the Baluchistan wares (*Mohenjo-Daro and the Indus Civilization* I 100, n. 1), but Sir Aurel Stein places it later. It should be added that, though he distinguishes an earlier and a later stage of civilization among his finds, for instance at Shahi Tump, neither stage leaves the scope of the Iranian Highland culture; for each individually is linked with elements from the west. See also our Figs 2 and 9 and the author's review of Sir Aurel Stein's *Archaeological Tour in Gedrosia* in *Antiquity* VI (1932).

A study of the funerary customs reveals the same similarities between the eastern and western fringes of the Highland culture as does the pottery. Throughout there is remarkable variety. At Susa, according to De Morgan, bodies were buried "*dans une position quelconque*," though most often extended, without any special orientation.[1] An interment which he pictures elsewhere illustrates the contracted position.[2] At Ur we find that in tombs of the al-ᶜUbaid period the bodies were placed in a supine extended position on a layer of potsherds.[3]

Now in Baluchistan, and also in the Indus Valley, we find complete interments, but also fractional burials in which the bones were only in part collected and buried after the body had been exposed to beasts and birds; in addition there are post-cremation burials. Sir John Marshall, studying all the evidence, comes to the conclusion "that there is likely to have been a definite line of demarcation between post-cremation burials on the one hand and fractional or complete burials on the other,"[4] and that the post-cremation burials are characteristic for the Indus civilization, since they occur in Baluchistan only where signs of eastern influence are strong. Consequently the fractional and complete burials are due to "Persian" elements in Baluchistan. And in fact we find in Baluchistan the same variety noticed at Susa and Ur. At Nal fractional and complete burials occur side by side;[5] and at Shahi Tump, where there are complete burials only, the body was put in the grave sometimes in a contracted, sometimes in a supine extended, position on waterworn stones[6] which recall the sherds of Ur. When we read, furthermore, that the post-cremation remains at Mehi were sometimes buried in a pot and sometimes interred with funerary gifts on the very spot where cremation took place,[7] the conclusion seems justified that throughout the Iranian Highland culture there were no strict rules for the disposal of the dead.

[1] "Mémoires de la Délégation en Perse" XIII 7.

[2] *La préhistoire orientale* III (Paris, 1927) 52, Fig. 65.

[3] *Antiquaries Journal* X 337.

[4] *Mohenjo-Daro and the Indus Civilization* I 89.

[5] Hargreaves, *op. cit.* pp. 21 ff.

[6] Stein in Archaeological Survey of India, Memoir 43, p. 95.

[7] *Ibid.* pp. 155, 157 ff., and 163.

In the preceding paragraphs we have referred to the Indus civilization almost exclusively, to eliminate that portion which is alien to the Iranian Highland culture from the material brought back by the Indian Survey officers from Baluchistan. And, in fact, that Highland culture cannot at present be followed beyond the eastern mountain ranges of Baluchistan. But it is worth while to remember that we need not definitely exclude the possibility that the Highlanders once descended into the valley of the Indus as well as into the plain of the Two Rivers. For the remains unearthed so far in India are very much later than the period with which we are dealing. This we know, not from the pottery, which, being unconnected with any dated fabric, provides no basis for chronological arguments,[1] but from Indian objects found in stratified deposits in Mesopotamia.[2] These importations indicate consistently that the Indus civilization in the stage known at present is contemporaneous with the Sargonid, and perhaps also with the early dynastic, period in Mesopotamia. But just as the population of Babylonia in those periods included various racial groups, among whom the Sumerians played a leading part, so the contemporaneous population of the Indus Valley is shown by Colonel R. B. Seymour Sewell and Dr. B. S. Guha to have consisted of people belonging to four different races.[3] It is, however, a fact of the greatest significance that the statues from Mohenjo Daro, which must be assumed to picture the leading element in the community, show some of the same fashions in use in India as in Mesopotamia throughout the four pre-Sargonid periods of civilization. At Mohenjo Daro we find that a

[1] This against Mr. Mackay's admittedly tentative suggestion in *Mohenjo-Daro and the Indus Civilization* I 333 ff. We could in the same way dispose of Sir John Marshall's doubt as to whether the occurrence of the "comb pattern" in the Mohenjo Daro pottery would not compel us to date it nearer to Susa I; but in this connection we may add that this pattern, as our Fig. 10 shows, survives in the Nihawend pottery down to early dynastic times. See Appendix IV.

[2] Cf. *Mohenjo-Daro and the Indus Civilization* I 103 f. The first decisive dating evidence has been obtained at Tell Asmar from the excavations of the Oriental Institute in 1931/32. See the London *Times* of March 26, 1932, and my second preliminary report on the Oriental Institute's work in Iraq (to appear in its *OIC* series). That the Indus civilization is known to us in only one stage of its development follows also from the homogeneity of its remains in all layers; see *Mohenjo-Daro and the Indus Civilization* I 10, 91, and 103.

[3] *Mohenjo-Daro and the Indus Civilization* II (London, 1931) chap. xxx.

beard is worn while the upper lip is shaved, exactly as in Mesopotamia from the Uruk period, or even perhaps from the al-ʿUbaid period, onward.[1] We see, moreover, that at Mohenjo Daro the men sometimes wore long hair in a knot at the back of the head,[2] exactly as we know it from Eannatum's stela, Meskalamdug's gold helmet, and the seal impression from Warka (cf. Table II). Now such similarities in fashion are less easily explained by mere contact than are resemblances in material culture. The discovery of remains earlier than those yet found in the Indus Valley will show whether, besides the contact which is proved to have existed between India and Babylonia in Sargonid times, there was a common ethnic element of greater antiquity which gave a parallel direction to the cultural development of both regions.

For the moment we must therefore limit the eastward extent of the Iranian Highland culture by the eastern mountain ranges of Baluchistan. It is more difficult to define its extension beyond Mesopotamia in the west. Its influence can be traced on some of the early painted wares from Tell Halaf;[3] but almost all of the pottery from that site has pronounced characteristics of its own, in technique no less than in shape or decoration. It is linked indubitably with wares from Carchemish and Sakche Gözü and with the simpler Palestinian fabrics such as the "cream ware" from Gezer.[4] It seems, therefore, that we must constitute an early Syrian cultural province adjoining the Iranian and Anatolian-Transcaucasian provinces (see frontispiece). As the

[1] See pp. 14, 20, and Table II, and compare *Mohenjo-Daro and the Indus Civilization* III (London, 1931) Plates XCVIII, XCIX 4–6, and C 4–6. Mr. Mackay (*op. cit.* I 362) expresses doubt as to whether the upper lip of the first statue is represented as shaved; but when I was able to study the actual head in the exhibition at the Burlington Fine Arts Club in London, it appeared so to me beyond any doubt. The strong stylization of this particular piece, evident in the reduction of the ear to an ornamental volute, affected the rendering of lips and cheeks also: the upper lip is reduced to a ridge the top of which joins the curve of the beard. The second figure (Plate XCIX 4–6) is rendered in the same fashion as the first, but in a more naturalistic manner. See also Sir John Marshall's discussion of these works of art, *op. cit.* I 44.

[2] *Op. cit.* III, Plate XCIX 4–9.

[3] Max Freiherr von Oppenheim, *Der Tell Halaf* (Leipzig, 1931) Plate 53, Nos. 9 and 16.

[4] Frankfort, *Studies in Early Pottery of the Near East* I (1924) 108 ff., II (1927) 76 ff.

pottery from Tell Halaf is published without any stratigraphical distinctions, we can only state in general that at some period the two provinces overlapped at that site.[1] In any case Mr. Mallowan's interesting discoveries at Nineveh in 1932 show that the Tell Halaf ware reached that site after the Samarra variety of the Iranian Highland pottery had been predominant there for a considerable time.[2]

The earliest settlers in Mesopotamia, then, were people descended from the Iranian Highlands and possessed of a culture which extended eastward to the very borders of the Indus Valley. But at Susa, as well as at Ur, there is evidence that this civilization was no longer pure during the last stages of its predominance in Mesopotamia. In the highest layers in which the al-ʿUbaid and Susa I remains prevail, alien objects are mingled with them. These, especially the pots and the stone vases, show characteristics which were to become predominant in the succeeding, the Uruk, period. That the two periods overlapped is definitely shown by some vessels in the new red-ware technique imitating shapes and designs of earlier fabric.[3] Various technical details (the use of a slip, the use of clays of purposely different composition to obtain the red color and muffled firing to obtain the gray, the vertical piercing of the lugs) definitely exclude the possibility that the new ware represents a development of the old. In fact, there is no way leading from the technique of the one to that of the other, and we need only look a little farther afield to see that the new pottery comes from abroad; displacing, as it does, the older wares of more advanced technique, and

[1] Work in northern Mesopotamia will doubtless give some information as to the chronological position of the Tell Halaf wares, for they are represented there intermingled with those from the Iranian Highland province; see p. 33, n. 1. The typical Syrian pottery, with its very lustrous orange paint on a reddish cream slip, is found occasionally as far east as Shamiramalti near Van; see p. 31, n. 4. On the other hand, relatively primitive black and red polished wares, perhaps of Anatolian origin, occurring at Tell Halaf must have existed there side by side with the painted wares, as they were influenced by the latter (so Hubert Schmidt in Oppenheim, *op. cit.* p. 258). In the absence of proper stratigraphical observations we can say nothing as to the chronological relationship of the two wares. In Mesopotamia and Persia we observe, for instance, how monochrome wares, from every point of view more "primitive" and typologically "earlier," overlie a more developed indigenous product, painted wares made by the aborigines.

[2] See his forthcoming report in the Liverpool *Annals of Archaeology and Anthropology*.

[3] These are discussed fully in my *Studies* I 38 f.

moreover coinciding with those features which differentiate the Uruk period from the al-ʿUbaid period, the pottery, as is so often the case, serves as an indicator of migratory movements. Both the gray and the red wares are in reality rooted in the black-ware technique which was practiced in Anatolia,[1] whereas the Iranian Highlands and the Syrian coastal regions produced two varieties of painted pottery.

Before defining more precisely the trend of the migration, which can hardly have reached Mesopotamia from Anatolia directly, we must supplement the negative technical evidence against an identification of the Uruk and the al-ʿUbaid wares with the positive statement that on a visit to Tepe Gawra early in 1930 we picked up some sherds which, to our very great astonishment, we had to admit were identical with those we knew so well from a large number of sites between Hissarlik and Boghaz Köi; even the parti-colored bowl[2] and the short tubular side-spout in black polished carboniferous ware were represented. If one remembers the state of our knowledge at that time, when the Uruk period had not yet been recognized at all, it is clear how inexplicable was the presence of these Anatolian sherds in the north of Mesopotamia. By the end of that year it became known that at Ur and at Erech some black pottery had been found together with the gray and red which predominated and which, in fact, represent the normal development of the black-ware technique in a country where pottery is usually fired in an oxidizing atmosphere.[3]

But other recent discoveries, or, rather, recent publications of material, place the occurrences of these Anatolian wares in Mesopotamia in a new light. In the first place they enable us to define the original frontiers between the Anatolian black-and-red-ware province and the Iranian province of painted pottery. This frontier runs exactly where the Romans and Parthians met and where nowadays the Turks and Persians meet. Lake Van belongs to the Anatolian province, as was proved by Dr. Jenny's publication of the finds from Shamiramalti;[4]

[1] Frankfort, *Studies* II 63–71, and *Reallexikon der Vorgeschichte* XIV 79 ff.

[2] *Studies* II 79 and 84, n. 3.

[3] *Ibid.* I 9 ff. and II 63–71.

[4] *Praehistorische Zeitschrift* XIX (1928) 280–304. A slight difference of opinion with Dr. Jenny must here be registered. It seems certain that the earliest finds at Shamiramalti go back to the very beginning of the 3d millennium, or even farther. The orange-painted pottery ("*Gattung B*"; perhaps even his Fig. 1, No. 5) seems to have been imported from the North Syrian province (see our frontispiece and

but Lake Urumiyeh lies in what was originally the Iranian province of painted pottery. Farther to the north, however, we find the Anatolian province extending all through Transcaucasia[1] and through North Persia, where characteristic black and red vessels, even a beak-spouted jug (*Schnabelkanne;* Table III[2] 17), which might have been found at Yortan Kelembo, and a pot with tubular side-spout (Table III 18), well known from Alishar Hüyük, have been unearthed at Cheshme Ali Tepe near Tehran.[3] Similar pottery is reported to come from Hekatompylos;[4] and far in the east the second settlement at Anau in Transcaspia shows a predominance of these red and gray wares, in contrast with the first, where there are exclusively painted wares. This in itself shows that the "Anatolian" province[5] did not from the beginning reach as far toward the east as Anau, but gradually expanded in that direction. And this is furthermore confirmed by the character of the painted wares of the second settlement at Anau, which in several ways resemble those from Tepe Gawra but not those from Anau I; in other words, some elements of the western part of the Iranian painted-ware province were dragged eastward in the

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p. 39). We have mistakenly called it Aegean in *Studies* II 177. It appears with the carboniferous ware of the stage of Troy I. On Jenny's page 301, fifth line from bottom, we must read not "*Beginn des zweiten*" but rather "*Beginn des dritten Jahrtausends.*"

[1] In addition to the vessel from the neighborhood of Erivan (*Studies* I, Plate V 1) there is also from tombs round Elizavetpol (*Bulletin of the Russian Imperial Archeological Commission* XXIX 1 ff.) a collection of pots one of which (*op. cit.* Fig. 5) is identical in technique and design with the Erivan pot, whereas the others are monochrome vases. See also "Mémoires de la Société nationale des antiquaires de France" LXII (1901) Plate I 1, 2, 4 and a number of vessels not pictured but described in the text and obviously belonging to the same ceramic province.

[2] The sources of the illustrations in Table III are listed on pp. 63–64.

[3] "Mémoires de la Mission archéologique de Perse" XX 117, Nos. 1–3 and 8–9 in Fig. 23.

[4] *Ibid.* p. 125.

[5] To the same province seem to belong the so-called "mother-goddess" statuettes. Those from Ulski in the Kuban Valley north of the Caucasus (*Bulletin of the Russian Imp. Arch. Commission* XXXV 1–11 with Plates I and II) could be explained as imports by sea from the Aegean, were it not that similar idols seem to have been found at Asterabad (*Archaeologia* XXX [1844] Plate XVI and *Journal of Egyptian Archaeology* VI [1920] Plate III) and that, moreover, Anatolia and Cyprus show many very early examples of similar figurines. Compare also the interesting table in Evans, *Palace of Minos* I (London, 1921) 48.

movement of the "Anatolian" elements. Further proof that this interpretation is correct comes from Tepe Gawra, where, as Dr. Speiser kindly tells me, the ware which resembles that of Anau II, the "Maltese-cross ware" of his first report, precedes the appearance of the Anatolian wares, so that that painted ware could well have been carried east by the same movement which brought the gray and red wares there.[1] And a mere consideration of the geographical conditions shows that the painted-ware province and the "Anatolian" province must have overlapped, at least wherever the latter penetrated south of the Elburz Mountains. Indeed, we find at Cheshme Ali Tepe painted wares together with the others;[2] and in Transcaucasia[3] on the one hand and at Hekatompylos (Damghan)[4] on the other we find red ware with black painted ornamentation which can only be due to influence from the Iranian painted-ware province. For in Anatolia painted ware seems not to be indigenous till the last centuries of the 3d millennium B.C.; then it intrudes there from the east, from the very regions which we have been surveying here.[5] Thus we find an Anatolian-Transcaucasian province expanding eastward into Transcaspia and at the same time southward into Mesopotamia, where its intrusion gives rise to the cultural stage known as the Uruk period.

This conclusion is obviously of such importance for our present inquiry that we must endeavor to formulate with the greatest precision the evidence upon which it is based. The argument for an Anatolian relationship of the pottery of the Uruk period is based entirely on considerations of technique; but as the technical innovations are such that they cannot possibly be explained as due to any kind of develop-

[1] The *Annual of the American Schools of Oriental Research* IX (1929) 29 f. shows that in the deepest layers then reached sherds belonging to the al-ʿUbaid phase of civilization (such as its Figs. 34, 35, 41–44, 48, 53, 54, 56, 63, etc.) were mixed with some from the North Syrian province (its Figs. 45–46) well known from Tell Halaf, Carchemish, and Sakche Gözü, represented in the "cream ware" of Gezer and in imported vases in the tombs of the 1st dynasty Egyptian kings at Abydos (*Studies* I 108 ff.). Monochrome "Anatolian" wares thus arrived later than these. At Nineveh likewise gray monochrome wares arrived after Iranian Highland wares and North Syrian wares had been in use for some time. See p. 30.

[2] "Mémoires de la Mission archéologique de Perse" XX 117–20.

[3] The Erivan and Elizavetpol vessels of page 32, note 1.

[4] Herzfeld, *Die vorgeschichtlichen Töpfereien von Samarra*, Plate XLIV.

[5] See Appendix III.

ment of the earlier indigenous technique,[1] and as at least some of the finds at Tepe Gawra show very special and detailed similarities to Anatolian phenomena, the argument is strong in itself. Corroborative evidence is supplied by the curious red pottery with black painted designs appearing at Susa at the end of the al-ʿUbaid period. It corresponds exactly with similar wares from Hekatompylos and other sites in northern Persia (and perhaps in Transcaucasia), where the earlier province with painted pottery and the Anatolian-Transcaucasian province with monochrome pottery overlap. But if thus the Uruk period appears to be caused by ethnic movements which affected the surrounding regions to a large extent, we may strengthen our Mesopotamian evidence by looking farther afield to countries into which the same movement penetrated. We have to deal with vast regions from which only unstratified finds are recorded. But even so we need not despair of reaching trustworthy conclusions if only there are among those finds objects of such pronounced characteristics that their affinities can be established beyond a doubt. We may refer once more to Cappadocia, the ceramic history of which could be outlined in its main features notwithstanding precisely similar circumstances. In our present case we have to thank the Victoria and Albert Museum in London, and especially M. E. Vignier, of Paris, for most generously allowing us to increase the available material by some most important pieces in their possession (Figs. 3–6).[2] These are said to have come from Nihawend. They help us to trace the history of some outstanding types which we need for our argument. The most important of these is the beak-spouted jug (*Schnabelkanne*).

Two distinct types of this vase find a wide distribution throughout the regions under discussion. One has an upright neck, which was originally merely cut off obliquely,[3] but soon developed "flare-mouthed" and "cut-away" shapes,[4] which are best known from Yortan Kelembo but which survive in the early painted Hittite wares of the end of the 3d millennium[5] and even in the red-wash ware of the

[1] See Frankfort, *Studies* I 8 ff. and II 63 ff.

[2] Again in our Table III 22–24 and 26.

[3] Frankfort, *Studies* II 58, n. 2 *a*.

[4] Our Table III 1, 11, 17, 31, 34, 36, and 39.

[5] Our Table III 34.

FIG. 3.—A BEAK-SPOUTED JUG FROM NIHAWEND IN THE VICTORIA AND ALBERT MUSEUM, LONDON. SCALE, ABOUT 1:3

FIG. 4.—A BEAK-SPOUTED JUG FROM NIHAWEND IN THE COLLECTION VIGNIER, PARIS. SCALE, ABOUT 1:3

FIG. 5.—A BEAK-SPOUTED JUG FROM NIHAWEND IN THE COLLECTION VIGNIER, PARIS. SCALE, ABOUT 1:3

FIG. 6.—A CHALICE FROM NIHAWEND IN THE COLLECTION VIGNIER, PARIS. SCALE, ABOUT 1:2

Hittite Empire.[1] This type, in an early technical stage, is found as far east as Cheshme Ali Tepe near Tehran.[2] The second type of *Schnabelkanne* has a side-spout which projects upward, generally from the shoulder of the vessel, and ends in a more or less elongated beak with a troughlike opening.[3] This type was not found in the necropolis of Yortan Kelembo, but is known from Crete in the Vasiliki ware which developed out of the Anatolian ware we are discussing; it occurs also in contemporaneous fabrics in the second half of the Early Minoan period. It survives, as does the other type, in the early painted wares of Cappadocia and the contemporaneous red-wash ware of the last centuries of the 3d millennium and in the painted wares of the Hittite Empire.[4] But the examples from Anau III,[5] Urumiyeh, and Transcaucasia and those from Nihawend which we publish here (Figs. 3–5) seem to be older, or at least are more primitive in technique. This is strikingly the case with the Nihawend vases. They are, like the Urumiyeh vessels, handmade; the firing is somewhat uneven in the case of the Urumiyeh pots, which belong definitely to the Yortan stage; and this same stage is suggested by the small lugs on the Nihawend vessels, for which Boz Hüyük has the closest parallels.[6] The Transcaucasian vessels are executed in black polished carboniferous ware, which may be very early, but which seems to have survived in those regions well into the Iron Age. On the other hand the curious bridge between spout and rim connects at least the Anau III pot and the Urumiyeh vessels with a group of Transcaucasian pots from near Elizavetpol which both in shape and in technique can hardly be later than the Yortan period.[7] The narrow, sharp-edged trough of the spout connects all these beak-spouted pots with the Cappadocian examples of the late 3d millennium, but the extreme forms of the early 2d millennium in Cappadocia

[1] *Studies* II, Plate XII 6; De Genouillac, *Céramique cappadocienne* II (Paris, 1926) Plate 45, No. 108.

[2] Our Table III 17.

[3] Our Table III 5–7, 9, 14–15, 19–21, 23, 26–27, 33, 35, and 40–42.

[4] *Studies* II, Plate XII 2 and 7.

[5] Pumpelly, *Explorations in Turkestan* I (Washington, D.C., 1908) Plate XII 1.

[6] For the date of Boz Hüyük see *Studies* II 71; for the lugs, *Mittheilungen des Deutschen archaeologischen Instituts, Athenische Abteilung*, XXIV (1899) Plate II 1.

[7] *Bulletin of the Russian Imperial Archeological Commission* XXIX 16.

do not occur. Thus the Persian examples can with certainty be dated within the 3d millennium as a result of these various considerations; and the primitiveness of the technique of some of them would place them even in the vicinity of its beginning were it not that we must reckon with the fact that the mountainous regions, less progressive than either Western Anatolia or the plain of the Two Rivers, may have continued to use an old technique and early shapes after these had been given up elsewhere. This we observe also in the case of the painted ware related to the al-ʿUbaid and Susa I pottery; it continued in use in Susa and in Seistan long after it had disappeared in Mesopotamia.[1] But it should be remembered that our uncertainty as to the exact date of the beak-spouted vessels which we actually possess from Persia affects only the termination of the influences derived from the Anatolian-Transcaucasian province, but not at all the date of their earliest appearance. This must have been the Yortan period (at the latest), for otherwise the technical progress made in Anatolia after the Yortan period would be reflected in the pottery found farther east.

The conclusions reached by a study of the beak-spouted jugs are confirmed by two other series of vessels. One is a chalice,[2] known from Troy I[3] and therefore antedating even Yortan, represented by an excellent example from Nihawend in the Vignier collection (Fig. 6), reported moreover from Hekatompylos, and found again on the one hand in Anau II[4] and on the other at Shamiramalti near Van.[5] A third series contains jugs of various shapes but each provided with a handle which makes a right angle with the spout instead of being placed on the opposite side of the vessel. This arrangement, typically Anatolian,[6] is found in Transcaucasia also.[7] It may be due to the extreme scantiness of ceramic remains of the Uruk period that these three types have not yet been found in Mesopotamia. But even failure

[1] See Appendix IV. [2] Our Table III 8, 10, 13, 16, 24, and 28–29.

[3] Hubert Schmidt, *Heinrich Schliemann's Sammlung trojanischer Altertümer* (Berlin, 1902) Nos. 96–105. A perfect example in black ware from Pandermа-Soma is in the Antiquarium in Berlin, No. 30677 (our Table III 13).

[4] Pumpelly, *Explorations in Turkestan* I 138 ff., types C and F; for Hekatompylos see Herzfeld, *op. cit.* p. 7.

[5] Our Table III 16. [6] *Studies* II 59, section *f* in note.

[7] "Mémoires de la Société nationale des antiquaires de France" LXII (1901) Plate I 4, 6, 8; *Bulletin of the Russian Imp. Arch. Commission* XXIX Fig. 68.

of such types to turn up there as excavations continue would be explicable by the fact that the connection of the Highlands with Anatolia and Transcaucasia was a lasting one, so that the civilization of which we have studied the ceramic remains developed there without much interference, whereas in Mesopotamia it was not only absorbed in the fabric of an indigenous civilization of great vitality but also was overlaid by other elements which went to the making of the Jemdet Nasr period. The Anatolian-Transcaucasian origin of the distinctive pottery of the Uruk period, which we derived from technical considerations, is certainly made even more probable by the indubitable evidence that northern and western Persia received a related fabric from that region.

We have followed a suggestion made when this paper was first read and have formulated very explicitly our conclusions based on ceramic evidence. It has, of course, been impossible to republish here all the material and all the principles which have to be taken into account and have already appeared in other publications; to those we have been careful to refer. But it may be helpful to give once more our conclusions.

In Chalcolithic times three cultural provinces can be traced by their pottery in Western Asia (see frontispiece). The first, in Syria, with which we are not here concerned, uses painted pottery, largely with shiny orange paint on a thick creamy slip. A second province with painted pottery occupies the Iranian Highlands as far east as Baluchistan; in the west it comprises the earliest settlements on the Tigris and Euphrates. The third province, with unpainted carboniferous monochrome pottery with a thick polished slip, originally black, then red, includes the whole of the Anatolian peninsula and passes north of the Taurus into Transcaucasia. This province expands; a glance at the map (frontispiece) shows that its eastward expansion into Persia follows a line of ore deposits, just as the first arrival of metal objects in the Aegean and in Greece takes place in a period marked by a westward expansion of the same cultural province.[1] The key position of the Caucasus in the early development of the Metal Age can be realized by a glance at our Figure 7,[2] where the distribution of certain very specialized types of tools and ornaments is shown. This figure

[1] *Studies* II, chap. iv.

[2] In Appendix II, facing p. 52.

refers to the early dynastic period. However, the same province, at an earlier stage, expanded toward the south also, where its influence created in Mesopotamia the Uruk period. This period succeeded the al-ᶜUbaid period, which represents the second of the three cultural provinces enumerated above, namely, that of the painted pottery found in the Iranian Highlands.

Having established these conclusions, we may return to the subject of our inquiry, which was last formulated as the question whether the Sumerians entered Mesopotamia at the beginning of the Uruk period or were already there in the al-ᶜUbaid period. Now that we have determined in which context the distinctive features of each period belong, we may estimate the implications of these two alternatives.

THE AFFINITIES OF THE SUMERIANS

Regarding the people who appeared in the south at the beginning of the Uruk period we may make two assertions: They spoke in all probability a Caucasian, a Japhethite, language; and they were brachycephalic or perhaps mesocephalic.[1] The people responsible for the al-ᶜUbaid stage of culture belonged, to judge by their distribution, to the middle eastern section of the Mediterranean race, to the "Brown race" of Professor Elliot Smith, in fact.[2] But of their language we can say nothing.

[1] It is impossible to maintain that the whole of the Anatolian-Transcaucasian province was populated by hyperbrachycephalic Armenoids. For one thing there is complete agreement between archeology and philology regarding an invasion of the Aegean from southwest Asia Minor at the beginning of the Copper Age. (This conclusion, attained in *Studies* II in 1927, was independently reached by Messrs. Haley and Blegen in *American Journal of Archaeology* XXXII [1928] 141 ff.) See also p. 59. But such data on pre-Hellenic skulls as we possess (see C. U. Ariens Kappers, "Contributions to the Anthropology of the Near East" VI in K. Akademie van Wetenschappen te Amsterdam, *Proceedings* XXXIV [1931]) exclude the possibility that hyperbrachycephalic elements came into the Aegean in any numbers at that time. Moreover, we have to claim for these immigrants some sort of proto-Indo-European language (cf. Kretschmer in *Glotta* XIV [1925] 300 ff., and on the whole question Professor A. Götze's forthcoming volume in Iwan Müller's *Handbuch der klassischen Altertumswissenschaft*), which also seems difficult to combine with a hyperbrachycephalic population. The hyperbrachycephalic Armenoids are generally considered a specialized form of the (often mesocephalic) Alpine race which may have formed the main population of the Anatolian-Transcaucasian-Transcaspian province.

[2] Not only the skulls from Anau, but also all those found in Baluchistan, are dolichocephalic. See the reports of Col. Sewell and Dr. Guha in Archaeological Survey of India, Memoirs 35 and 43.

The bearing of the alternation of physical types on our Sumerian problem is not easy to estimate. The skulls from Ur are Mediterranean in type; so was the one skull of the al-ʿUbaid period which could be measured at Warka, and so were the children's skulls from Anau I and from Baluchistan. And our view that the Sumerians came from the Iranian Highlands in the al-ʿUbaid period not only can be considered in keeping with these facts but actually finds some support in the following remarks of Sir Arthur Keith, in which the terms "Semitic" (i.e., Arabian) and "Iranian" should be taken with a purely geographical connotation. Discussing the skulls from Ur, Sir Arthur writes:

> Mesopotamia is regarded as lying on the Semitic side of the boundary line between the prevailing type of modern Persia and that which is most commonly met with in the great Arabian peninsula of to-day. We shall find, when we proceed to describe the racial features of the ancient people of Ur, that they share in the characteristics of both types. . . . . It is usual to explain the existence of such intermediate types as being the result of hybridization. . . . . No doubt intermarriage and hybridization do take place across racial frontiers, but we cannot in this way explain the evolution of the original Iranian and Semitic stocks. Both have clearly arisen, at some remote period, from a common ancestry, and we therefore ought to find between the centres or cradles of their evolution an intermediate or transitional type. The Mesopotamian people, both past and present, represent a transition between Iranian and Semitic types, but they have retained more of the Iranian than of the Semite. One can still trace the ancient Sumerian face eastwards amongst the inhabitants of Afghanistan and Beluchistan, until the valley of the Indus is reached.[1]

As so often, the physical type would have survived changes in culture and language in the region where it was evolved, and the Sumerian would be a somewhat early and less specialized dolichocephalic type of man.

When we turn to the much more complicated skeletal material from

[1] In Hall and Woolley, *Al-ʿUbaid*, p. 216. Sir Arthur Keith's views on the origin of intermediate types are more explicitly expressed in the interesting discussion by him and Dr. W. M. Krogman of Mr. Bertram Thomas' measurements in southern Arabia and Mr. Henry Field's measurements in Iraq. It is called "The Racial Characters of the Southern Arabs" and is published in Bertram Thomas, *Arabia Felix*, pp. 301–33. See especially p. 333: "We believe that 'intermediate' races rarely arise by miscegenation of two extreme types, but represent a stage in evolutionary development which is intermediate to the two extremes."

Kish,[1] we find that agreement with our views is even more complete. In the first place Dr. Buxton, in discussing the bearing of geographic and ethnic frontiers on armed invasions and migrations or peaceful penetrations respectively,[2] stresses repeatedly the fact that the reason why the brachycephalic Highland people never became dominant in Mesopotamia seems to be that they found the valley of the Two Rivers already fully occupied by dolichocephali.[3] This is what our archeological evidence would lead us to suggest, for the brachycephali are naturally associated with the Uruk period,[4] whereas the al-ʿUbaid period represents the earliest occupation of the plain. As to the characteristics of the dolichocephalic population of Mesopotamia, Dr. Buxton distinguishes a Brown-Mediterranean and a Brown-Eurafrican type.[5] The two resemble each other to such an extent that "until we have, say, a hundred skulls instead of forty, it is not possible definitely to pick out these two types."[6] They are, in fact, often included together in the term "Mediterranean." But, as distinguished by Dr. Buxton, the Brown-Mediterranean variety seems later and related with the west, whereas the Eurafrican type seems more ancient[7] and has connections with the east. For Dr. Buxton states that "the present evidence, scanty as it is, suggests a remote physical connection with India."[8] This antedates, however, very considerably the commercial or cultural relations which the discoveries of Sir John Marshall prove to have existed in Sargonid times. Now it is evident that Dr. Buxton's conclusions, reached on the basis of anthropological material exclusively, tally strikingly with our archeological argument, which claims that the Sumerians were the earliest inhabitants of Mesopotamia, though they belonged originally to a cultural province extending over the Iranian plateau to the very border of the Indus Valley (see frontispiece).

Thus, if the Sumerians are represented by the more archaic, the

[1] L. H. Dudley Buxton and D. Talbot Rice, "Report on the Human Remains Found at Kish," *Journal of the Royal Anthropological Institute* LXI (1931) 57–119.

[2] *Op. cit.* pp. 63 ff.

[3] *Op. cit.* pp. 83 and 92.

[4] Because of their country of origin; see our pp. 30–40. Another wave may have entered during the Jemdet Nasr period; see our p. 43, end of n. 1, and the evidence of the skulls from Kish not discussed by Dr. Buxton (our p. 9).

[5] *Op. cit.* pp. 67 ff.

[6] *Op. cit.* p. 71; cf. p. 76.

[7] *Op. cit.* p. 82.

[8] *Op. cit.* p. 93.

Brown-Eurafrican, variety of the dolichocephalic population at Kish, the other variety, the Brown-Mediterranean type which is related with the west, can hardly have been anything but "Semitic." For it is certain that we have to account for Mediterranean Semites from Arabia at an early date in Mesopotamia, though we shall hardly be able ever to detect them in the earliest periods[1] and though there is no need to assert that they were in the country before the Sumerians arrived. For between the al-ʿUbaid period, which we consider Sumerian, and the earliest written documents which can be read, there is ample op-

[1] [SEMITES] Speiser, *Mesopotamian Origins*, p. 81: "The earliest Semites that are likely to have discovered the blessings of the rich alluvial soil in the Valley of the Two Rivers, must have been nomads from the south. Now nomads do not have a culture that is comparable to that of settled communities; hence they are compelled to borrow from the latter on adopting for themselves a sedentary mode of living." The settled community was in this case that of the al-ʿUbaid culture, which we hold to be Sumerian.

But the problem of the "Semites," which can only mean Semitic-speaking tribes, is very complicated from the point of view of the anthropologist. It is interesting that the arrival of the people of the dynasty of Akkad seems to result in an increase of dolichocephaly in the mixed population which ensues (Hall and Woolley, *Al-ʿUbaid*, p. 221). Dr. Contenau was the first (*Manuel d'archéologie orientale* I [Paris, 1927] 104 ff.) to draw attention to a definitely Semitic type which first appears in the portraits of Naramsin, then in those of Hammurabi, and also occurs later. The nose is typical; it is small, straight, and thick at the tip (*nez à pied de marmite*), but not aquiline. This is the real Bedawi type (von Luschan, *Journal of the Royal Anthropological Institute* XLI [1911] Plate XXVII). It has long been known, of course, that the fleshy aquiline nose of the Assyrians, of the Jews, and of many modern Iraqis is due to their admixture with Armenoids; in the case of the Assyrians it has even been suggested that by far the largest proportion of the people was Armenoid, though the language is Semitic. But the question now arises *when* that mixture actually took place. It may have happened in Assyria itself and also in North Syria, for Professor G. Elliot Smith has drawn attention to an Egyptian ivory of the 1st dynasty which actually pictures very adequately such an Armenoid North Syrian Semite (G. Elliot Smith, *The Ancient Egyptians*, new and revised ed. [London, 1923] pp. 151 ff.); he insists, after clearly stating the confusion prevalent on this point, that the Semites in Babylonia were Armenoids from Syria (*Human History* [London, 1930] p. 162). Now we agree with Dr. Speiser, who continues (after the words quoted at the beginning of this footnote): "The Semites who were in a position to bring with them to Lower Mesopotamia a tradition of settled habits could have come only from Syria." This very consideration made us derive the new features of the Jemdet Nasr period from that region (*Antiquaries Journal* VIII 225 ff.). Professors Speiser and Christian would prefer to call the newcomers in that period Hurrian, which can only be a stressing of the other element in the North Syrian mixture, for the Jemdet Nasr pottery is not found in the Highlands, where the Hurrians held sway.

portunity for such borrowings from Semitic and subsequent *"Lautwandel"* as Professor Poebel claims took place.[1]

It is unfortunate that Western Asia, in contrast with Egypt, has not preserved human remains in quantities sufficient to allow statistical treatment, which alone safeguards us against undue influence of exceptional material on our conclusions. If larger series of ancient skulls were available, a comparison with modern skull measurements would be certain to yield extremely interesting results, because in several respects the racial conformation of the Near East seems not to have changed and we can observe how at present certain physical distinctions between racial groups correlate with profound cultural differences.[2] As it is, the inconclusive nature of such an elaborate study as that of Buxton and Rice shows how carefully one has to proceed. But in any case the anthropological evidence, as far as it goes, seems definitely to support the view propounded in this paper.

The philological evidence seems to point in the same direction. For one of the most curious features of Sumerian is its isolation among languages, an isolation which only a few scholars care to deny by asserting that it belongs to the Caucasian, Japhethite languages.[3] And

[1] *Zeitschrift für Assyriologie* XXXIX (1930) 149, n. 2. See also our pp. 21–22.

[2] Attention should be drawn to the work of Professor Kappers, *op. cit.* Vols. XXXIV–XXXV (1931–32). There we find given for the cephalic indices of ethnic groups not averages but graphs (frequency curves), which account for all the indices recorded, so that the actual components of mixed ethnic groups can be clearly distinguished. A forthcoming book by Professor Kappers will stress the importance of his very extensive material for ancient history. On the question of whether somatic characteristics, and especially the cephalic index, are reliable guides for establishing racial relationship, see Professor Kappers in *Al-Kulliyyah* XVIII (1932) 349–65.

[3] Bork (*Orientalistische Literaturzeitung* XXVII [1924] 169–77), Tseretheli (*Journal of the Royal Asiatic Society*, 1913–16), and Bleichsteiner (*Festschrift . . . . P. W. Schmidt* [Wien, 1928]). In a paper like the present it seems not improper to enumerate the various suggestions which have been made to explain the affinities of Sumerian. Though the three scholars just named see in it a Japhethite language, Hommel (*Festschrift Schmidt*, where further literature is given) and Opitz (*Reallexikon der Vorgeschichte*) defend a connection with Turkish. Autran (*Sumérien et Indo-Européen* [Paris, 1925]) and Hein (*OLZ* XXIII [1920] 250 and *Mannus*, Band 11/12 [1919/20] 183–204) consider it connected with Indo-European languages. Th. Kluge (*Versuch einer Beantwortung der Frage: Welcher Sprachengruppe ist das Sumerische anzugliedern?* [Leipzig, 1921]) and Wanger (*Scientific Zulu Grammar* and *Festschrift Schmidt*) propose Bantu. Drexel (*Anthropos* XIV–XV

yet this conclusion would be unavoidable if the Sumerians had come in at the beginning of the Uruk period; it would follow from the very fact which we have established in the preceding paragraph, namely, that the Uruk period in Mesopotamia is a southern offshoot of an Anatolian-Transcaucasian province. On the other hand the isolation of the Sumerian language would be perfectly explicable on the assumption that the Sumerians were the makers of the al-ʿUbaid ware. For the Japhethite invasion represented by the Uruk period would have cut them off from their relatives farther east, who were, as Hüsing has pictured,[1] driven farther and farther toward the east in course of time by continuous invasions of Japhethites from the northwest. Thus we can explain at the same time the fact that already by 2000 B.C. the Sumerians were completely absorbed by the western and northern elements of the Mesopotamian population. If they came from the northern mountains, which we would have to assume if we date their arrival in Mesopotamia at the beginning of the Uruk period, this absorption could not be explained, because related peoples continued to pour into the country at greater or smaller intervals all through Meso-

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[1919–20]), supported by P. W. Schmidt (*Die Sprachfamilien und Sprachenkreise der Erde* [Heidelberg, 1926]), considers Bornu its nearest relative. Jeremias and Ed. Stucken (cf. Jeremias, *Handbuch der altorientalischen Geisteskultur*, 2. Aufl. [Berlin, 1929] p. 4) refer to Polynesian idioms. Christian sees in it a language which is essentially Japhethite, but which contains also Hamitic features (*Wiener Zeitschrift für die Kunde des Morgenlandes* XXXVI [1928] 197–202). If such African comparisons (upon which see also Meinhof in *Zeitschrift für Eingeborenen-Sprachen*, 1914–15) seem at first fantastic, we should not forget that the distribution of the middle eastern section of the Mediterranean race may have provided a physical substratum for such linguistic relations. Different climatic conditions may have created a continuous belt for nomadic herdsmen from Iran to the Atlantic Ocean. Not only the distribution of domestic animals, but also numerous similarities in customs and beliefs connected with pastoral life which survive among modern African cattle-keepers and may be dimly perceived in Egypt as well as in Sumer, might perhaps be explained in this way if ever we should possess enough evidence on either of these subjects to make their scientific discussion possible and to rescue them from the semifantastic sphere to which they must be relegated at the present moment. See also p. 14, n. 4, for a possible survival of physical characteristics.

[1] *Mitteilungen der Anthrop. Gesellschaft in Wien* XLVI (1916) 221 ff. Our conclusions, based on archeological material, tally strikingly with Hüsing's views, largely based on linguistic evidence; and they seem furthermore in agreement with Haddon's view (*Races of Man* [New York, 1925] p. 109), which is based on physical anthropology.

potamian history. And just as the "Semitic" elements were continually strengthened by these immigrations and can be distinguished in various "layers" according to the time of their arrival, so the Sumerians would not appear to us as a small, important, but isolated community if their habitat had been in Transcaucasia or northern Persia.[1] On the other hand the impression which we get that southern Babylonia is the Sumerian country par excellence is caused simply by the continual pressure from the north and northeast which brought the earliest occupants of the plain together in the blind alley bordering on the Persian Gulf. Thus the evidence considered in the foregoing pages confirms the conclusion obtained from the archeological material, namely, that the continuity in the material culture of Mesopotamia may best be understood as based on a similar ethnic continuity which, in view of the later stages of the development, we have to call from the very beginning Sumerian.

We thus see the Sumerians not only as the main authors of the civilization of the valley of the Two Rivers, but also as its earliest occupants, able to maintain their predominance in cultural matters throughout ages of continual invasion, but naturally confined, politically

[1] Ungnad (*Das Wesen des Ursemitischen* [Leipzig, 1925] pp. 25 f. and *Wiener Zeitschrift für die Kunde des Morgenlandes* XXXIV [1927] 155–56) claims Turkestan as the Sumerian homeland. The difficulty with his argument is that there is no certainty, and indeed, after what has been established for Egypt on the one hand (see especially Newberry, "Egypt as a Field for Anthropological Research," in *Proceedings of the British Association for the Advancement of Science* [Liverpool, 1923]) and for Baluchistan on the other (see Sir John Marshall in *Mohenjo-Daro* I, chap. i), very little likelihood that the climate in those early days was at all like that prevailing at present; and even if certain Sumerian names for the points of the compass apply well to modern Turkestan, it seems almost certain that they would not have done so about 3000 B.C. Moreover, we cannot claim Turkestan as the original habitat unless we assume that the homologues of the civilization of al-ʿUbaid and Susa I included not only the highlands of Iran and Baluchistan but the steppes also, for which there is no proof; and one would expect the Sumerians to have descended to the steppes from the mountains, but hardly to have occupied the mountains to the extent they did if they were originally steppe folk. On the other hand, if one accepts the alternative which we reject, namely, that the Sumerians came into Mesopotamia at the beginning of the Uruk period, Ungnad's suggestion gains importance. For then the Sumerians would be Alpines, and G. Elliot Smith and Buxton agree in considering Turkestan the cradle of the Alpine race. As the Turks are Alpines and not Mongols (G. Elliot Smith, *Human History*, p. 165), the alleged connection between Turkish and Sumerian would likewise gain in significance.

and ethnically, to a more and more restricted area. It is impossible at the moment to gauge the contributions of the various peoples to whom the differences which distinguish the Uruk and the Jemdet Nasr periods from each other and from earlier and later phases of civilization are due. A clear analogy in historical times is offered by the arrival of the Semites of the dynasty of Akkad, who, adding to the common stock of culture, took over nevertheless most of the Sumerian civilization. Even after this period the Sumerians regained once, under the 3d dynasty of Ur, political independence. This seems a last recurrence of events which, more or less similar, had repeated themselves from the earliest times onward, until (about 2000 B.C.) the Sumerians, cut off since time immemorial from their original stock by northern invasions of the Iranian Highlands, were totally absorbed in the ever renewed mixture of Mediterraneans and Armenoids, desert folk and mountaineers, which then, as now, formed the population of Iraq.

APPENDIX I

THE COMPARATIVE STRATIGRAPHY OF MESOPOTAMIA

The principle underlying our Table I has already been explained on pages 1–3. We should add that the equation of the various layers which were found at Kish, Ur, and Erech is based on much more complex material than it is possible to indicate here. For example, we make the break between the two main periods in the cemetery pit at Ur above Seal Impression Strata IV–V because numerous similar seal impressions have been found at Warka with remains of the Jemdet Nasr period. Again, in making "polychrome pottery" a feature of the Jemdet Nasr period, we really refer to a very special ware with pronounced characteristics as to shape and decoration; for both earlier and later polychrome wares are known in the Near East, and polychromy in itself is no indication of date.

We use "Mesopotamia" for the whole valley of the Two Rivers, because "Babylonia" is liable to suggest both political unity and Semitic predominance. As regards other terms used in this paper, we have adhered to the nomenclature established by the annual conference of expedition leaders in Baghdad. The distinctive names for the earliest three periods in our scheme are site names by which the conference decided to designate those groups of finds considered typical for the respective periods. Thus the German form "Uruk" is reserved for this use, while we employ to designate the actual site either the Arab name "Warka" or the biblical form of the Sumerian name "Erech." But it is only a makeshift to indicate a period of Mesopotamian civilization by the name of one site. Hence the latest of our four periods, which has heretofore been known as the "pre-Sargonid period" and is now known to include the 1st dynasty of Ur of the king lists as well as the dynasty of Urnina in Lagash, Mesilim of Kish, and other early rulers, we have called the "early dynastic period." We prefer this term, for the reason just mentioned, to the only adequate alternative, "Lagash period," proposed by Professor Christian.[1] The

[1] *Wiener Zeitschrift für die Kunde des Morgenlandes* XXXVIII (1932) 183–94.

term "plano-convex brick period," which has been used in connection with the work at Warka, is too one-sided and too narrow: it stresses only one feature of this stage of civilization in Mesopotamia; and it excludes without justification the latter part of the period, from Entemena to Sargon of Akkad.

Against Childe's view that Sumerian tradition justifies the use of the term "prediluvian,"[1] we must object that for us the term is senseless: see in our Table I the relative positions of the "Deluge" at Kish, the "Clay Deposit" at Erech, and the "Flood" at Ur. On the other hand, Dr. Erich F. Schmidt[2] found at Fara a sterile clay deposit separating the Jemdet Nasr culture from that of early dynastic times exactly as does the similar deposit at Erech. Even if Fara could not claim with at least some show of reason to be ancient Shuruppak, the city of the Babylonian Noah, the clay deposits at Fara and Erech could more easily be considered due to the "Flood" of Sumerian tradition than could the deposits at Ur and Kish; for that at Ur comes too early, that at Kish too late, in the history of human settlement in the plain. But the world-wide occurrence of the legend of the Flood suggests that such a literally historical interpretation is somewhat naïve in any case. It would seem that a myth belonging to the cycle of creation stories has been incorporated by systematizing priests into legends and quasi-historical traditions concerning very early times in Mesopotamia.[3]

Columns 1–3 of Table I should now be clear: they are a comparative record of sequences of strata as observed at three sites. In some cases strata at all three sites contain analogous objects (some of them pictured in Column 4). We are thus led to distinguish within the unbroken sequence of layers four main periods of material culture. That these four periods occurred not only at the sites where stratification has been fully recorded, but throughout the country, follows from Column 5, where under each period are enumerated the sites which have produced objects belonging to it.

Some of these sites were explored further while this volume was in

[1] *The Most Ancient East*, p. 126.

[2] *Museum Journal* XXII 193–246.

[3] See also Speiser, *Mesopotamian Origins*, p. 70, n. 33. For the factors determining the occurrence of floods in Iraq see Sir Arnold T. Wilson in the *Geographical Journal* LXV (1925) 225–39, especially p. 235.

preparation, and their complete stratification can now be added to that of Kish, Ur, and Erech. Dr. Schmidt (cf. p. 49) found that Fara was first inhabited in the Jemdet Nasr period, the remains of which were separated by a sterile alluvial deposit from those of the early dynastic period. At the Congress of Prehistoric and Protohistoric Sciences in London (August, 1932) Mr. M. E. L. Mallowan reported on a sounding which he carried out at Nineveh. He found on virgin soil at a depth of 25 meters a relatively thin stratum containing some rough incised wares and some simple painted wares, too indeterminate to show with certainty whether they belong to the Iranian Highland culture. The space explored at this depth was, of course, very small in extent. Such styles gave way to a thick deposit of wares identical with Iranian wares known from Samarra. Above these were deposited numerous North Syrian fabrics best known from Tell Halaf. Next appeared handmade burnished gray Uruk ware. Red Uruk ware was found a little higher, with handmade rough bowls. The Jemdet Nasr period was represented by plain pots only, not by the characteristic polychrome painted ware. Finally (just before the Sargonid period, Mr. Mallowan thinks), there was an extraordinary ware for which no parallels from other sites are known. Two vases of this ware have been published;[1] but their sources, as given by the officials of the museum in Istanbul, are almost certainly wrong. This ware seems to be a late descendant of the old Iranian Highland pottery, the survival of which is discussed in Appendix IV. In any case the stratification at Nineveh can be incorporated into the scheme of our Table I without forcing the evidence in any way, though among Mr. Mallowan's observations there are naturally some peculiar phenomena due to the northern position of the site.

The character of the information in Column 6 of Table I differs for each of the four pre-Sargonid periods. "Foreign connections" in the early dynastic period were merely trade relations. We have long been of opinion that the distinctive features of the Jemdet Nasr period are of North Syrian origin;[2] but, since increasing material has not produced a proportionate increase in evidence for this view, we have not included it in our table. The contrasts between the Uruk and al-ʿUbaid

[1] *Reallexikon der Vorgeschichte* XIV (1929) Plate 43ᵏ g-h.

[2] Cf. p. 43, end of n. 1.

periods can be compared with the changes due to the arrival of the Akkadians at the end of the early dynastic period, for we have seen that the new features which distinguish the Uruk period from its predecessor can be explained to some extent by assuming an influx of people from the regions named in Column 6. The "foreign connections" of the al-ʿUbaid period refer to the original unity of Mesopotamia with the regions indicated.

Commercial relations of the early dynastic period with India were included before we discovered at Tell Asmar evidence that the Indus civilization was contemporary with the Sargonid age.[1] But since there is some likelihood that the latter age did not create the relationship, we may retain this indication for the moment. Relations with the Caucasus were particularly strong in the metal industry. The earliest contact between Sumer and Egypt is placed in our table at the very end of the Jemdet Nasr period, because it is extremely unlikely that it took place after the metal industry discussed in our Appendix II had become prevalent in Sumer. We find no trace in Egypt of any of its characteristic products or even of the use of the closed mold. The clear chronological indications which we possess on the Egyptian side for this contact are not yet paralleled by Mesopotamian evidence; but, since the discoveries at Erech and Jemdet Nasr have shown how many elements of Sumerian decorative art go back to a period earlier than that previously accepted, and since stylistic considerations play a great part in tracing Sumerian influence in Egypt during and just before the rise of the 1st dynasty, the problem should be studied afresh.[2] On the other hand, to assume a date earlier than the Jemdet Nasr period for contact between Sumer and Egypt would seem to entail impossible consequences for Aegean chronology.[3]

[1] See p. 28, n. 2.

[2] Professor von Bissing's articles in *Archiv für Orientforschung* VI 49–81 (1928–29) and VII (1931) 23–30 are too negative in their conclusions, too incomplete in the material studied, and too incorrect in a number of statements to be helpful.

[3] See p. 63.

APPENDIX II

THE DISTRIBUTION OF SOME EARLY TYPES OF METAL TOOLS AND ORNAMENTS

The conclusion which Figure 7 is intended to illustrate was first suggested to the present writer by the observation that metal objects similar to several of those from the royal tombs at Ur had been found in the Caucasus region also. Though the dates of those from the Caucasus are more or less uncertain and though some of them can be proved to be considerably later than the objects from Ur, the fact remains that the early existence of the types illustrated is established beyond doubt by their occurrence among Mr. Woolley's finds. Such freakish ornaments as spatulate pins (Fig. 7, Nos. 9, 20, and 43) and "Spanish comb" pins (Nos. 10 and 23) cannot reasonably be claimed to have been twice independently invented in the Near East; independent invention is only a little less unlikely in the case of socketed axes and adzes (Nos. 1, 16–17, 36, and 47), eyelet pins (Nos. 6, 8, 22, 24, and 35), hair rings(?) (Nos. 3–4, 25, and 46), and lance heads (Nos. 13, 18, and 37). Moreover, the early Copper Age tumulus at Maikop contained, besides a socketed ax (No. 1), flowers of gold foil (No. 2; cf. Nos. 26–27 and 41) and solid cast animals (No. 12; cf. No. 29) such as are known from Ur. Furthermore, the bull figures from Maikop have holes in their backs through which passed the poles of a canopy;[1] one is reminded of the cast copper frog from Kish which supports the pole of a rushlight in a hole in its back (see our Table I). From Khafaje comes a hoard of silver (now in Chicago) containing thick spirals, triangular in cross-section (No. 30), identical with the so-called "armlets" so common in the Caucasus (No. 5) and in Central Europe (No. 45). It may be accidental that gold-foil diadems such as are known from Ur (No. 34), Platanos and Mochlos (No. 42) in Crete, and Amorgos have not been found in the Caucasus region. In any case a close connection between the metal industry of the early dynastic period in Sumer and that of the Caucasus region must be admitted.

The geographic distribution of the various types excludes Sumer

[1] Mr. Woolley (*Antiquaries Journal* VIII 432) thinks that holes at the corners of a depression for the coffin, found in the floor of a tomb at Ur, were likewise intended for canopy poles.

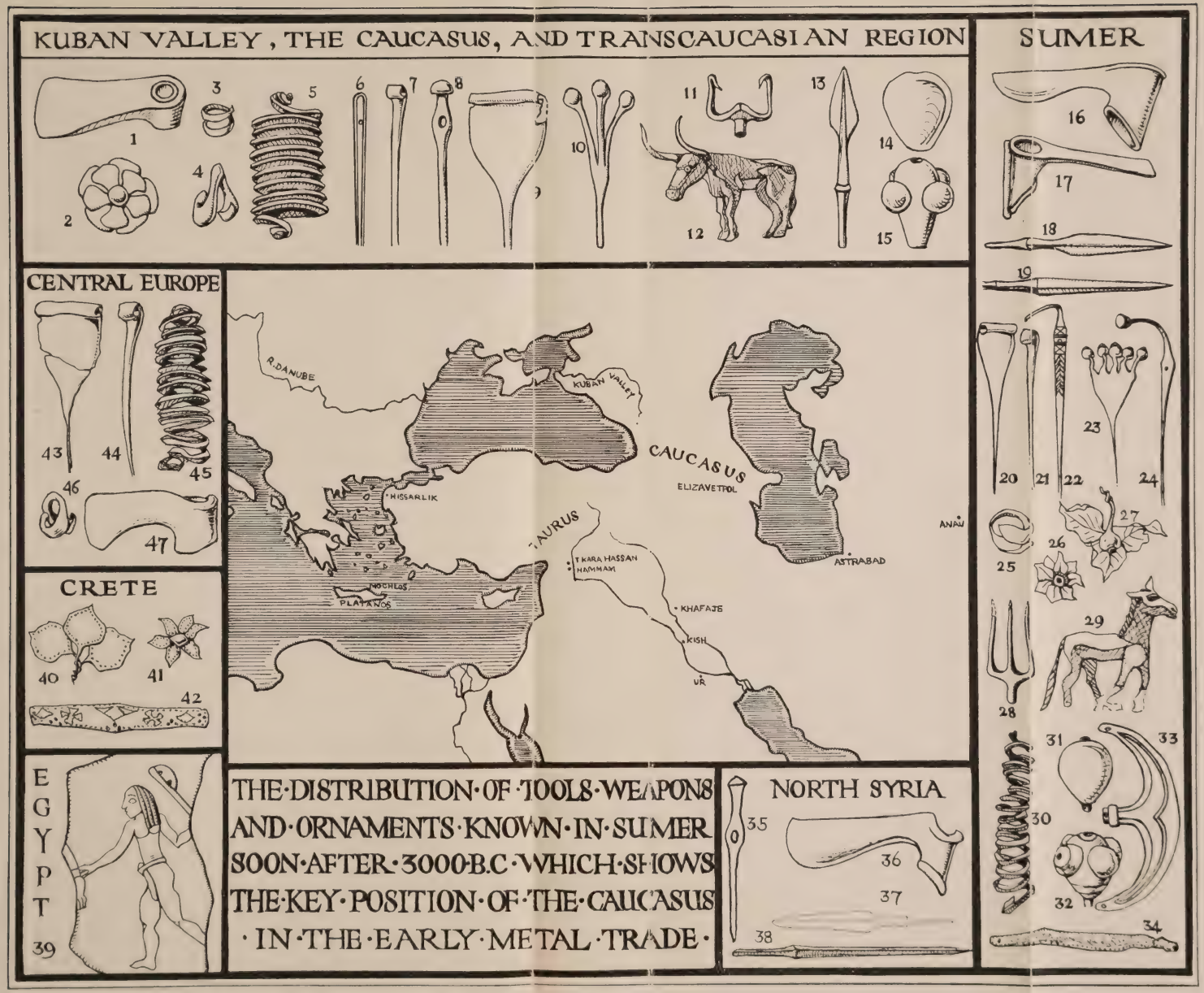
KUBAN VALLEY, THE CAUCASUS, AND TRANSCAUCASIAN REGION
SUMER
CENTRAL EUROPE
CRETE
EGYPT
R. DANUBE
KUBAN VALLEY
CAUCASUS
ELIZAVETPOL
ANAU
ASTRABAD
HISSARLIK
TAURUS
KARA HASSAN HAMMAM
KHAFAJE
KISH
UR
NOCHLOS
PLATANOS
THE·DISTRIBUTION·OF·TOOLS·WEAPONS AND·ORNAMENTS·KNOWN·IN·SUMER SOON·AFTER·3000·B.C·WHICH·SHOWS THE·KEY·POSITION·OF·THE·CAUCASUS ·IN·THE·EARLY·METAL·TRADE·
NORTH SYRIA

Fig. 7

as the center of dispersion. Since throughout antiquity Pontus and the Caucasus region were famed as metallurgical centers, we may assume that their fame began when metal was first used. In view of ceramic evidence that the Aegean, Greece, and even Macedonia obtained their first knowledge of metallurgy as a result of an invasion from Anatolia, and of Professor V. Gordon Childe's argument that the Early Copper Age of Central Europe is based on knowledge emanating from the Near East along the Danube, the conclusion as to the dominating position of Caucasian metallurgy gains yet further in probability. Some North Syrian tombs excavated by Mr. Woolley[1] confirm that in this early period (cf. the spear types Nos. 38 and 19 in Fig. 7), as well as at the beginning of the second millennium B.C.,[2] Syria underwent its influence.

It does not follow from what precedes that the possibility of smelting metal from ore was actually discovered in the Caucasus region, for we have followed the influence of this center by means of rather advanced products. It is true that the Anatolian invasion of the Aegean at the beginning of the Copper Age brought with it simple flat celts, axes, adzes, etc., cast in open molds. But these forms are ubiquitous and continue in use alongside more advanced types. They seem to belong to an early copper period when it was already realized that ore would yield metal, but when the second discovery which is a necessary preliminary for a real copper age,[3] namely, that a copper tool can be shaped at will to suit its functional requirements, without the limitations which stone imposes, had not yet been made. Only with the use of the closed mold is the full advantage of the adaptability of metal reaped. This seems to have become known in the early dynastic period in Sumer. The fact that the forms then introduced have a very limited occurrence strongly supports our thesis that the knowledge of these types was derived from one center. But for their adoption a continuous supply of suitable ores was essential, for pure copper will not give a clean cast in a closed mold. Often, however, copper obtained from ores by primitive methods of smelting contains a small amount,

[1] Liverpool *Annals of Archaeology and Anthropology* VI (1914) 87–98.

[2] As the late M. Henri Hubert has shown in *Syria* VI (1925) 16–29.

[3] Frankfort, *Studies* II 5 ff.

perhaps even less than 1 per cent, of other metals as impurities; and this will suffice for clean casting.

The difficulty of getting suitable ores explains perhaps the very original development of tools and weapons in Egypt, which is based entirely on the primitive flat shapes that can be obtained in open molds; for bronze appears in Egypt in appreciable quantity only after the Middle Kingdom, and it is surely no mere accident that in that period the influence of the leading metallurgical center, the Caucasus, is revealed in Egypt by the appearance of torques, eyelet pins, and the like. Similarly, the recurrence of a primitive ax type, consisting of a thin hammered blade rolled round the shaft, in the Sargonid period at Ur, after magnificent shaft-hole axes had been made in the previous period, was perhaps due to inability to obtain the proper ores, while deliberate tempering of the metal was not yet resorted to. See on this point the valuable article by A. Lucas, "Notes on the Early History of Tin and Bronze,"[1] which is marred only by the author's insistence that "from Egypt the knowledge of copper was derived, and to Egypt was passed back part at least of the newly discovered bronze"—two statements which are totally out of keeping with ascertained facts. The earliest use of copper, when the metal was known but its qualities were not yet fully realized, goes back to the beginning of the al-ʿUbaid period; but it is difficult to determine whence it spread. Mr. Lucas has shown in detail how well Egypt was equipped to be the country where the first discovery of copper might be made;[2] this does not prove, however, that it actually used its advantage, and the evidence is all against it.

It remains difficult to distinguish in the early stages, when copper objects were rare and small, whether their presence is due to chance reduction in camp fires or to conscious smelting. In any case we find Egypt down to the period just preceding the rise of its 1st dynasty simply imitating stone tools in copper, while Western Asia, though it used only the open mold, was creating new shapes and even proceeding to the invention of the copper mirror.[3] This early Asiatic development was based on the knowledge that malleable material could be ob-

[1] *Journal of Egyptian Archaeology* XIV (1928) 97 ff. and especially pp. 106 ff.

[2] *Journal of Egyptian Archaeology* XIII (1927) 162 ff.

[3] Frankfort, *Studies* II 4 ff., especially p. 7.

tained from ores. Though we believe that this knowledge spread from one center, it is impossible to trace it to its source.

But a second wave of metallurgical knowledge spread at the very beginning of historical times from the Caucasus region to Sumer, Syria, and Central Europe. It is very strange that this second wave did not influence Egypt, which, as discoveries at Byblos have shown, was continuously in touch with Syria. Indeed, only No. 39 in Figure 7 shows evidence of Egyptian contact with the metal industry. On the stone vase fragment there pictured, which is closely related to the hunting palette at Oxford and the Gebel el-ʿArak knife handle,[1] we see in use an ax the form of which is otherwise unknown in Egypt before the Middle Kingdom, but occurs in the early dynastic period at Kish and Ur (Fig. 7, No. 33).[2] Since even this ax is cast in an open mold, we think that the contact between Sumer and Egypt, of which there are so many signs among the protodynastic monuments of Egypt, took place at the very beginning of the early dynastic period in Sumer or at the end of the Jemdet Nasr period—in other words, before the use of the closed mold became common in Sumer. The absence of the closed mold in Egypt implies also that the direct contact with Sumer was interrupted soon after it began, a suggestion supported by the disappearance of the other signs of Sumerian influence in Egypt after the rise of the 1st Egyptian dynasty.

There remains the problem why Egypt did not accept the use of the closed mold via Syria. This may have been due to the circumstance that Egypt possessed excellent sources of copper ores in Cyprus and perhaps Sinai. Since these regions were politically dependent upon Egypt, ores from there were perhaps preferred above the Asiatic ores, even though the latter were suitable for the production of the more developed types of tools and weapons which required the use of a closed mold.

[1] Reproduced in *Studies* I, Plates XI 4–5 and XII 1 respectively.

[2] The type used at Kish is simpler; see Field Museum of Natural History, "Anthropology Memoirs" I, Plate XVII 8.

The objects illustrated in Figure 7 came from the following sites and are reproduced from the following publications:

SITE OR REGION	OUR NO.	SOURCE
Maikop	1–2, 12	*Transactions (Otchet) of the Russian Imperial Archeological Commission*, 1897, pp. 2 ff.
Tsarevskaya	11, 13	*Ibid.*, 1898, Plates II and IV
Other South Russian sites	3–4	Ebert, *Südrussland im Altertum* (Bonn und Leipzig, 1921) p. 66
Caucasia and Transcaucasia	5–10	"Materials for the Archeology of the Caucasus" VIII (in Russian)
	14	*Bulletin (Izvîestïa) of the Russian Imperial Archeological Commission*, 1908/9, p. 7
	15	*Praehistorische Zeitschrift* IV (1912) 32, Fig. 8
Ur	16, 26, 34	*Museum Journal* XIX 14, 29, and 380
	17, 19	*Antiquaries Journal* VIII, Plate VIII 2 *d–e*
	18	*Ibid.* Plate IX 2
	20, 28	British Museum (unpublished; by courtesy of the Trustees)
	23	*Antiquaries Journal* VIII, Plate VII 3
	27, 29	*Ibid.* Plate LXVIII 3 and 2
	33	*Ibid.* IX, Plate XXXI 1
Kish	21–22, 24	Field Museum of Natural History, "Anthropology Memoirs" I, Plate XIX 8 and 3–4
Khafaje	25, 30	Chicago. Oriental Institute (unpublished)
Susa	31–32	"Mémoires de la Délégation en Perse" XIII, Figs. 90 and 109
Syria	35–36	Liverpool *Annals of Archaeology and Anthropology* VI, Plate XXI
	37–38	*Ibid.* Plate XIX
Egypt	39	A. Scharff, *Die Altertümer der Vor- und Frühzeit Ägyptens* II (Berlin, 1929) Plate 22, No. 108
Crete	40–41	R. Seager, *Explorations in the Island of Mochlos* (New York and Boston, 1912) Fig. 43 XIX.23.*a–c* and XIX.16.*a*

	42	*Ibid.* Fig. 9 II.3
Central Europe	43	*Reallexikon der Vorgeschichte* II (1925) Plate 31, No. 6
	44	*Ibid.* Plate 30, No. 20
	45	*Ibid.* XIV (1929) Plate $9^{B}6$
	46	*Ibid.* Plate 8 b
	47	De Morgan, *L'humanité préhistorique* (Paris, 1921) Fig. 63, No. 6

APPENDIX III

THE DISTRIBUTION OF SOME PRESUMABLY ANATOLIAN TYPES OF VESSELS

It will be useful to consider once more the material included in Table III, which we have used on pages 34–38 to support the view that some features in the civilization of the Uruk period in Mesopotamia are due to influences from Anatolia and Transcaucasia. We must, then, first of all recall how remarkably continuous was the development of Anatolian ceramics.[1] There is an unbroken evolution, starting with the handmade black polished ware of Hissarlik I, passing over to handmade red-slip ware, and culminating in the red-wash ware, often wheelmade, which is found in the third structural period of Hissarlik II, but which survives down to the middle of the second millennium B.C. At certain periods the use of painted pottery parallels this continuous use of monochrome wares, and the Oriental Institute's excavations at Alishar are throwing considerable light on the relative chronology of the various fabrics. We may note that the most characteristic painted ware, the "*geometrische Mattmalerei des Rautenstils*" of Curtius, appears first of all as actual red-slip ware with a painted decoration added;[2] and Hittite pottery consists of descendants of this style on the one hand (Table III 32 and 34) and descendants of the red-wash ware on the other (Table III 33 and 36).

But we are concerned here with the monochrome ware. This is now proved to go back to the earliest layers of Alishar—layers which Dr. von der Osten believes to be Neolithic. He states that "the common-

[1] See Frankfort, *Studies* II 63–71 and 157–58.

[2] Cf. Erich F. Schmidt, *Anatolia through the Ages* ("Oriental Institute Communications" No. 11 [Chicago, 1931]) Fig. 150, and Frankfort, *Studies* II 157.

est type" represented in them "is a thick coarse gray ware, handmade, with polished black slip."[1]

If under the term "monochrome ware" we group the three successive ceramic stages above mentioned (black ware which becomes red-slip ware, which in turn is improved to red-wash ware), we find in its early occurrence and permanent predominance a striking contrast between Anatolia and surrounding regions of the Near and Middle East (see frontispiece); for everywhere else painted pottery is used first, then gives way to unpainted light-colored fabrics without slip or wash. However, we should extend the Anatolian province eastward to include Transcaucasia, for in the neighborhood of Elizavetpol have been found vases of the early red-slip technique with shapes for which there are parallels from Hissarlik as well as from Yortan.[2]

That we refer indiscriminately to black-slip and red-slip wares in the succeeding pages finds further justification in observations in the Aegean region. There Anatolian influence can be followed quite clearly by the spread of Anatolian pottery shapes representing the technical stage when transition from black ware to red ware was actually being effected—the stage which, in fact, corresponds with the interval between Hissarlik I and Hissarlik II, or, in other words, with Yortan

[1] In Schmidt, *op. cit.* p. 156. In the "thick gray ware with incised ornamentation" which Dr. von der Osten says comes "next in frequency" (and on which, according to advance information kindly supplied by Dr. von der Osten, the Maltese cross occurs [see his forthcoming report in "Oriental Institute Communications" No. 14, Fig. 24, and cf. "Oriental Institute Publications" VI (Chicago, 1930) Fig. 210]) we are naturally inclined to see a development of the black-ware technique for which parallels (though not exact counterparts) from Western Anatolia might be quoted.

There were two other types of pottery in the presumably Neolithic layers at Alishar (cf. *loc. cit.*), but their relative scarcity and also their descriptions suggest that their homeland might be found on the other side of the Taurus Mountains. "A fine black ware, sometimes with neatly incised ornamentation," recalls forcibly the characteristic fabric of the earliest layers of Sakche Gözü; and "a painted ware, red-brown on buff," suggests the fabric known from Tell Halaf and Tepe Gawra.

[2] *Bulletin of the Russian Imperial Archeological Commission* XXIX 1 ff. and Figs. 60 and 69–72. We may note in passing that there are also figured painted wares with Hittite affinities (*ibid.* pp. 14–15; also *Praehistorische Zeitschrift* XIX 286, Fig. 2, No. 1). This fact, with the absence of painted wares of the early types found farther east, would, if further research should confirm the latter point, provide additional grounds for including Transcaucasia and Anatolia in the same cultural province.

Kelembo. We cannot here, of course, go into this evidence in full, but we may recall three important points. First, numerous and varied Anatolian features in Greek and Aegean pottery[1] are contemporary with the earliest appearance of copper in that area. Second, Mr. Heurtley has shown an exact parallel in Macedonia for what we observe in Greece proper: the advent of metal coincides with the appearance in the pottery of Anatolian features so numerous and detailed as to suggest some sort of immigration from Anatolia.[2] Third, a study of place-names reveals that the distribution of Anatolian features such as the elements *-nth-* and *-ss-* coincides with the occurrence of pottery (Early Helladic *Urfirnis*) which can be proved to have an Anatolian ancestry.[3]

Now the fact that the coming of copper from Anatolia into Greece, Macedonia, and the Aegean is so well established by two independent lines of evidence is extremely important in dealing with the unstratified material shown in Table III; for it seems to us that the only way to explain its presence in Persia is to assume that there was a contemporaneous expansion toward the east similar to the one which we can follow with such precision in the west. The vessels from Persia suggest this by their shapes and technique.

The shapes are so peculiar and the agreement of details (troughlike shape of the beak, for instance) is so complete that it seems out of the question to assume independent origins for the eastern and western examples. For many years we have known numerous examples and varieties of these shapes from Crete. This does not prove, of course, that they originated there; in fact, the beak-spouted jugs appear for the first time in Crete, the Cyclades, and Greece in precisely those wares the techniques of which have Anatolian antecedents; and numerous details of the jugs themselves have Anatolian analogies.[4] Furthermore, these jugs soon became rare in Crete: the side-spouted variety (Table III 5–6 and 9), so extremely common in Cappadocia (Table III 33) and also well represented among the Persian examples, does not survive the Early Minoan period; and the straight-necked jug with beak-

[1] Frankfort, *Studies* II 85–93.

[2] *Annual of the British School at Athens* XXVII (1925/26) 1–66, especially p. 51; XXIX (1927/28) 181.

[3] Cf. also p. 40, n. 1.

[4] Frankfort, *Studies* II 86.

spout occurs in the Middle Minoan period in exceptional instances only (e.g., Table III 31, from Palaikastro). In Anatolia, on the other hand, we find these forms in continuous use (Table III 33 and 35–36, each represented by a great many examples); in fact, we find there the earliest occurrences (at Hissarlik I) as well as the latest survivals (at Gordium, Table III 39–40[1]) of the beak-spouted jug.

The evidence afforded by the beak-spouted jug is corroborated by two other shapes included in our Table III. The small chalice or footed drinking-cup seems to occur only in black-slip ware and its gray derivative, perhaps because the increasing use of metal in succeeding periods ended the demand for this kind of vessel in pottery. The two-handled bowl, made in one piece with a support, is common in the Middle and Late Minoan periods,[2] so that the Anatolian example (Table III 32) could be considered as an imitation of contemporaneous

[1] G. and A. Körte, *Gordion* (Berlin, 1904) Figs. 20 and 25. These belong somewhat earlier than the majority of the finds (cf. Frankfort, *Studies* II 158–59).

In picturing pottery vessels collected by M. André Godard in Luristan (Table III 41–42) as possibly late survivals of the type with which we are concerned, we intend to draw attention to a problem rather than to solve one. The animal-shaped handles of Hissarlik VI seem to provide parallels; but we cannot insist on this, because animal-shaped handles seem to occur early also (Table III 19), and tomb-robbers have thrown early as well as late objects on the market. Though M. Dussaud has drawn attention to some Nihawend swords similar to those from Ras Shamra (*Syria* X [1929] 299) and therefore datable to the 13th century B.C., other objects, such as axes and especially daggers (Moortgat, *Bronzegerät aus Luristan* [Berlin, 1932] Plate I 1), tally so closely in type and in details (of the handle, for instance) with those from the early dynastic tombs at Ur and Khafaje that we have a margin of about 1,500 years. Even the strange swelling on the neck which Godard noticed in his pottery imitations of bronze vessels (Godard, *Les bronzes du Luristān* ["Ars Asiatica" XVII (Paris, 1931)] p. 98) finds early parallels (Table III 6, 14–15, and 22). Thus the general inclination to assign the majority of the Luristan bronzes to a relatively recent period should perhaps be checked.

Another late occurrence of our shapes is found in the enigmatic fayence from Enkomi and Assur discussed by the late Dr. H. R. Hall (*Journal of Hellenic Studies* XLVIII [1928] 64–74).

[2] Harriet Boyd Hawes *et al.*, *Gournia, Vasiliki and Other Prehistoric Sites on the Isthmus of Hierapetra, Crete* (Philadelphia, 1908) Plate IX 2; Bosanquet and Dawkins, *The Unpublished Objects from the Palaikastro Excavations 1902–1906* I (British School at Athens, Supplementary Paper No. 1 [1923]) Fig. 85*a;* Hazzidakis, *Tylissos à l'époque minoenne* (Paris, 1921) Fig. 15; *Annual of the British School at Athens* VII (1900/1901) Fig. 43; and our Table III 30. For a Palestinian example of this type from Beisan, dated to the reign of Amenhotep III, see *Museum Journal* XX (1929) 67.

importations from the Aegean were it not for a handmade burnish-decorated example from Pyrgos (Table III 2)[1] which allows us here again to go back to the period of Yortan Kelembo.

Though we have used "Yortan" with a chronological connotation, justified, of course, in the case of Western Anatolia or the Aegean, such use is not at all applicable to the Persian vases of our Table III. It is true that Yortan Kelembo does offer a possibility of determining their position, but only in relation to the continuous technical development of Anatolian ceramics rather than in terms of years. For I can state without hesitation that those vessels which I have had an opportunity to handle (Table III 14–16 and 23) are handmade and in every respect of the same type as the pottery from Yortan; from photographs and descriptions one may, with very small risk, assume the same for Nos. 17–18, 20, and 22–25 of Table III. Hence the shapes with which we are here concerned are found in the technique known at Yortan Kelembo over a much wider area than in any other technical stage. But we cannot go so far as to assert that the actual vessels which we happen to possess from Persia are all contemporaneous with the beginning of the Early Minoan age in the Aegean. For it is obvious that a more primitive technique may survive in backward regions long after it has been given up in progressive areas such as the Aegean; in fact, the displacement of the red-slip ware by the red-wash ware took place in Anatolia itself about the end of the second millennium B.C., whereas the corresponding development of the *Urfirnis* ware in the Aegean fell within the same early Aegean period (Early Minoan, Early Cycladic, Early Helladic) which began with the appearance of black-slip and red-slip wares in the Cyclades and in Crete. However, if we grant that the far-reaching and detailed similarities of the shapes given in our Table III prove that they were derived ultimately from a common center, it seems inevitable to conclude that the spreading of the shapes from that center took place in the period when Anatolian pottery had reached the stage of technical development represented at Yortan Kelembo. Otherwise the subsequent technical advances, rather than what we call the Yortan stage, would be found connected with those shapes over a wide area. Instead we do find in Persia (Table III 25) as well as in Crete (Table III 7) the peculiar firing technique which

[1] Table III 1 and 3–4 also are from Pyrgos.

produces Vasiliki ware.[1] This is essentially a technique of the Yortan stage, for the latter is characterized by experiments in firing which resulted finally in the transition from the production of black ware in smoky and reducing atmosphere to the production of red ware in oxidizing atmosphere.[2]

We have already indicated that the continuous use in Anatolia of the shapes under discussion suggests that Asia Minor was indeed the center from which this pottery, and therefore its makers, spread toward the east and the west. This view finds considerable support when we remember that in the Aegean world there is linguistic evidence of Anatolian expansion which brought with it pottery in the Yortan stage and also that the Aegean received on the same occasion its first knowledge of copper-working. A glance at our frontispiece shows that the eastward expansion of these monochrome wares followed the mountain ranges where ore is found in Persia. It should also be remembered that the monochrome wares are certainly intrusive in Persia and in Iraq (cf. pp. 30–33).

Acceptance of the view put forward in this essay and further substantiated in this Appendix, namely, that the Uruk period in Mesopotamia derived some of its distinctive features from Anatolian or Transcaucasian immigrants, carries with it certain chronological implications for Aegean and European archeology which some may not be ready to accept. If our conclusion is correct, then the graves of Yortan Kelembo, or at least of Hissarlik I, must, whatever the exact date

[1] The mottling is not in the clay but is produced entirely by a special disposition of the coals during the firing. See Frankfort, *Studies* II 90 f.

[2] Mr. Frederick R. Wulsin's interesting discoveries at Tureng Tepe, near Asterabad, reported in the supplement to the *Bulletin of the American Institute for Persian Art and Archaeology* for March, 1932, seem to confirm the early date of the vessels under discussion. Mr. Wulsin has found settlements and graves with bronze or copper tools and weapons at least as advanced as those shown in our Figure 7. We should therefore expect the pottery belonging with these implements to be of a later date than the Uruk period. The pottery from Tureng Tepe is, in fact, typologically "later" than the Persian wares we are discussing, in that its shapes show a much more pronounced differentiation of the various parts of each vessel. On the one hand, however, the narrow beak-spout survives here (*op. cit.* Pl. XI 2); and on the other the gray ribbed ware which is so conspicuous in the "Uruk" layer at Nineveh is increasingly common in the deeper layers of Tureng Tepe (*op. cit.* p. 9).

of the Persian pots in Table III may be, be contemporaneous with the Uruk period in Mesopotamia and should therefore be dated in the fourth millennium B.C., though not as far back as excavators in Mesopotamia tend to suggest. Now this conclusion is perfectly in keeping with such evidence for cross-dating as we possess. The finds at Knossos, and especially those in the vaulted tombs of southern Crete, are generally thought to prove that the Early Minoan period is contemporaneous with the rise of the 1st Egyptian dynasty.[1] This correlation in turn makes Hissarlik I and Yortan Kelembo, upon which the Early Minoan period is dependent, contemporaneous with at least the last part of the predynastic period in Egypt and thus inevitably leads us to the fourth millennium. It is sometimes objected that the material from Western Anatolia and the Aegean is not sufficiently varied to require so many centuries for its production. But it should be remembered that the speed with which innovations are effected in a civilization is proportionate to the height of development and the degree of differentiation already attained. The more primitive stages of any given culture will therefore require a longer time for changes to take root, or, in other words, will produce more homogeneous remains over a given length of time, than will a more developed stage of the same civilization. In any case, if we refuse to distribute what remains we possess over a sufficient number of centuries to account for the civilization of Western Anatolia during the predynastic period in Egypt and in Sumer, we must assume a vacuum before the story begins. Such an assumption does not satisfy the present writer.

The objects illustrated in Table III are reproduced from the following sources:

NO.	SOURCE
1–4	Ἀρχαιολογικὸν Δελτίον, 1918, p. 144, Fig. 5; p. 151, Fig. 9; p. 153, Fig. 10
5–6	Seager, *Explorations in the Island of Mochlos*, Fig. 50, No. 90, and Fig. 33

[1] Evans, *The Palace of Minos at Knossos* II (London, 1928) 22–59. The present writer feels considerably more doubt about the value of the evidence for dating purposes (as distinct from the proof of influence which it contains) than when he discussed the various arguments in his *Studies* II 94 f.

7–9	H. B. Hawes *et al.*, *Gournia, Vasiliki and Other Prehistoric Sites on the Isthmus of Hierapetra, Crete*, Plate XII 8, 12, and 24
10	Ἐφημερὶς ἀρχαιολογική III (1898) Plate 9, No. 15[1]
11	E. J. Forsdyke, *Catalogue of Greek and Etruscan Vases in the British Museum* I, Pt. 1 (1925) No. A 23
12	*Reallexikon der Vorgeschichte* XIV, Plate 43[A] p
13	Berlin. Staatliche Museen. Antiquarium 30677 (unpublished; by courtesy of Dr. R. Zahn)
14–15	Frankfort, *Studies* II 178, Fig. 21 *a* and *c*
16	*Praehistorische Zeitschrift* XIX (1928) 286, Fig. 2, No. 3
17–18	"Mémoires de la Mission archéologique de Perse" XX 117, Fig. 23, Nos. 1 and 3
19–21, 25	*Illustrated London News*, June 8, 1929, p. 983, Figs. 12–14, and p. 982, Fig. 1
22, 24, 26	Paris. Collection Vignier (our Figs. 4–6)
23	London. Victoria and Albert Museum (our Fig. 3)
27–29	Pumpelly, *Explorations in Turkestan* I, Plate 12, No. 1, and p. 140, Nos. 173 and 172
30	*Journal of Hellenic Studies* XXII (1902) Plate XII
31	Evans, *Palace of Minos* I (London, 1921) Fig. 445 *a*
32, 34–36	Frankfort, *Studies* II, Plates IX 1–2 and XII 2 and 6
33	*Syria* VIII (1927) Plate IV 5
37–38	Hubert Schmidt, *Heinrich Schliemann's Sammlung trojanischer Altertümer*, Nos. 3226 *a-b*
39–40	G. and A. Körte, *Gordion*, Figs. 27 and 20
41–42	A. Godard, *Les bronzes du Luristān*, Plate LXVII 240–41

[1] From Paros in the Cyclades; cf. *ibid.* cols. 174 and 168.

APPENDIX IV

"SUSA II"

We have already stated (p. 4) that the term "Susa II" seems not to correspond to any reality. At least in the various publications it does not indicate any definite period of occupation of the site or any definite stage of Elamite culture. It refers merely to a heterogeneous mass of débris later in date than the earliest settlement and its necropolis, but apparently earlier than the age of Hammurabi. However, increasing knowledge of Mesopotamian archeology clarifies more and more the various affinities of the remains grouped as "Susa II." From the beginning M. Pottier recognized the "Sumerian" (i.e., the early dynastic) character of the sculptures in alabaster and bitumen. An inscribed statue of Manishtusu shows that some of these belong even to the Sargonid period. The proto-Elamite tablets, some seal impressions, and the polychrome pottery take us back, on the other hand, to the Jemdet Nasr period; other seal impressions, even to the preceding Uruk period.[1] Thus all four pre-Sargonid periods of Mesopotamia are represented at Susa.

This conclusion is confirmed by the result of M. de Mecquenem's recent excavation,[2] undertaken with the avowed purpose of elucidating the stratigraphy of the mound. Though, in the absence of observed building-levels, a clear distinction of the various strata cannot be established, their general succession at least is clear in the light of our increasing knowledge of Mesopotamia. At the same time we find important confirmation of two conclusions which we had drawn in 1924 on somewhat ambiguous evidence; for (1) Susa I and "Susa II" are in fact completely separated by intervening strata, and (2) the pottery known in Mesopotamia in the al-ʿUbaid period, which we had claimed to be a later stage of Susa I, has now actually been found in layers overlying the oldest remains.[3] At some places this later stage seems to overlap the beginning of the Uruk period;[4] at others the latter is definitely found in higher layers. Above the remains of this period in turn appear painted vases of the Jemdet Nasr period. These ob-

[1] Jordan, *Zweiter vorläufiger Bericht über . . . . Uruk*, p. 51.

[2] Reported in "Mémoires de la Mission archéologique de Perse" XX 99–132.

[3] *Ibid.* pp. 130–31. [4] *Ibid.* p. 100.

servations were made in two different *sondages*.[1] In the south face of the great trench in which the earliest settlement was originally discovered, rough bowls of a type known in the Uruk period at Ur, Erech, and Nineveh were found between Susa I and "Susa II." The other *sondage*, reaching 11 meters below the "*II*^{me} *niveau*" (a term of apparently uncertain meaning), started downward from painted vases contemporaneous with the Jemdet Nasr period. As no building-levels were observed, the transition from one period to another was as gradual as in the refuse heaps at Ur. We hear that in the upper part proto-Elamite tablets occurred which, to judge by their form, their seal impressions, and their association with characteristic polychrome pottery, are contemporaneous with those from Jemdet Nasr. Then followed small smooth pots with four lugs and incised designs such as are found at Ur and Kish also and are typical of the Uruk period (cf. our Table I). There were also the hemispherical and "button" stamp seals, cylinder seals, alabaster vases, and some copper punches with bitumen handles; then again rough bowls together with rough stone vases and a copper adz.[2] Below this were sherds of the al-ʿUbaid style and finally those of the style of Susa I proper. Above all this sequence of layers, which, as we said, appears to go down from the Jemdet Nasr period, there was found a curious copper vase with a long spout open at the top[3] similar to one found by De Sarzec at Telloh[4] and obviously belonging to the early dynastic period, as some vases from the graves at Ur and Kish show similar features.[5] To this period belong also "goddess-handles"[6] resembling in every detail those found at Kish, also plaques and statuettes in bitumen and alabaster[7] and the square, poker-butted spearheads and shaft-hole axes and adzes found at Susa and at Musyan.[8]

[1] *Ibid.* p. 101. [2] *Ibid.* p. 104.

[3] *Revue d'Assyriologie* XXI (1924) 114, Fig. 8.

[4] *Découvertes en Chaldée* I 410.

[5] E.g., *Antiquaries Journal* VIII, Plate LXX 1; Field Museum of Natural History, "Anthropology Memoirs" I, Plate LVII 14.

[6] Published as idols in *Syria* VIII (1927) 198, Figs. 2–3.

[7] "Mémoires de la Délégation en Perse" XIII, Plates XXXIII–XXXVII, and *Recueil de travaux* XXXIII (1911) 45 f.

[8] "Mémoires de la Délégation en Perse" VIII 145.

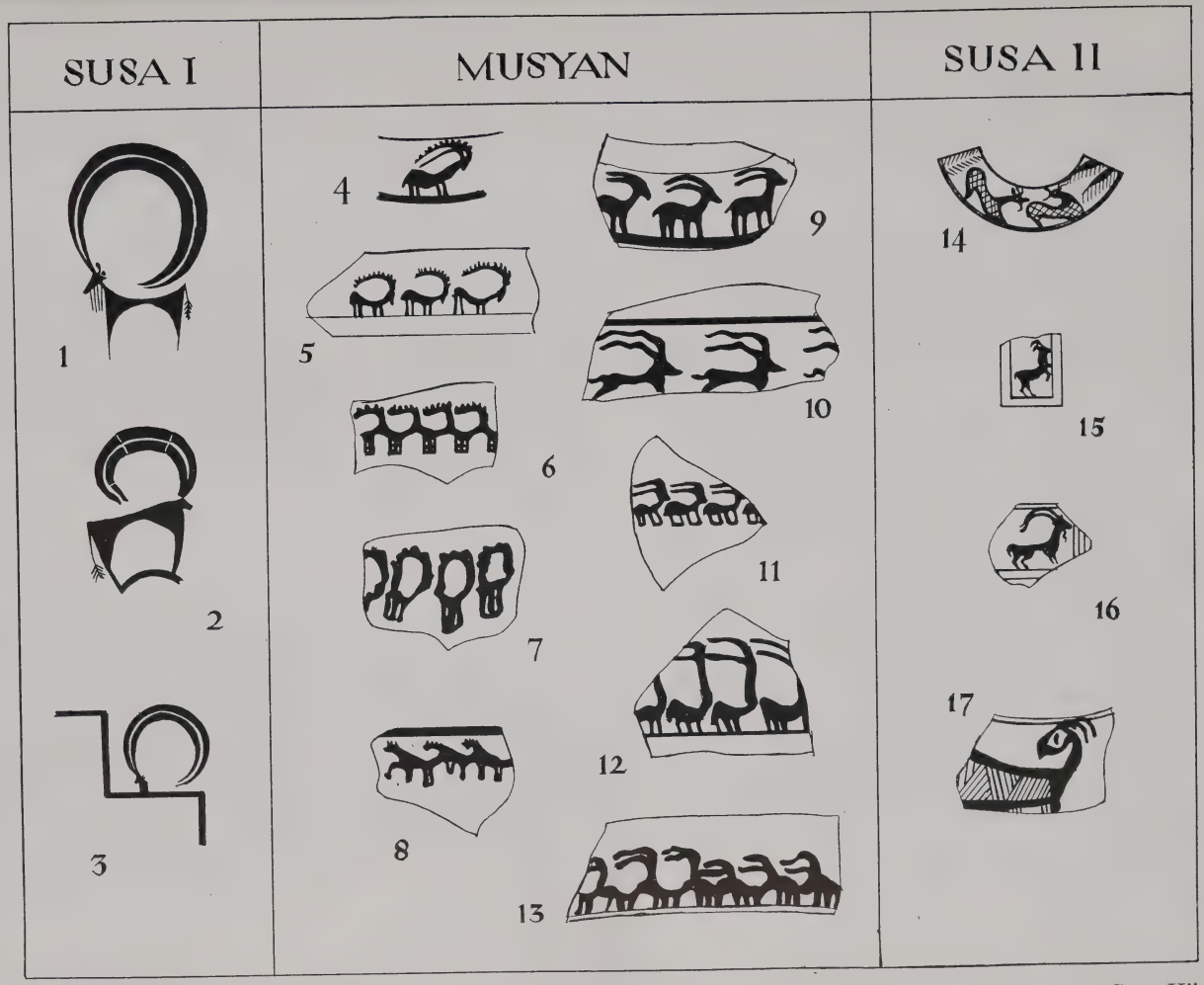

FIG. 8.—THE EVOLUTION OF THE GOAT MOTIVE, SHOWING THE ESSENTIAL DIFFERENCE BETWEEN SUSA I AND "SUSA II"

Fig. 9.—Pottery from Baluchistan

Even so, there remains one group of objects for which there is no Mesopotamian parallel, namely, vases showing naturalistic pictures of ibexes, other birds, etc. For this particular pottery group alone, which is essentially monochrome and essentially Persian, we might reserve the term "Susa II" as a convenient label. This style of vase-painting never penetrated into Mesopotamia except for two importations from Susa, one found at Telloh,[1] the other at Ur.[2] On the other hand the peculiar polychrome pottery of the Jemdet Nasr period never penetrated east of Susa. At Tepe Ali Abad the two styles met, with the result that the shoulders of the large polychrome vases sometimes show animals in a "metope." But this fabric is unique; for, though its peculiar polychrome geometric decoration has relations with Mesopotamia and Syria, the monochrome-figure style of "Susa II," as well as that of Susa I, belongs to an eastern Highland context.

That the later Susian style cannot be adequately explained as a development from the earlier one we have shown in some detail in *Studies* I; our Figure 8[3] may be considered as a recapitulation of the argument. The first column shows that magnificent stylized designs tended even in Susa I to degenerate into unintelligible decorations. The second column illustrates how at Tepe Musyan rows of goats, for example, on a related but inferior fabric became mere scrawls. The monochrome-figure style of "Susa II" (Col. 3) produced designs of varying artistic merit, but all so obviously based on direct observation of nature that neither the initial characteristics of, nor the trend of development observable in, the pottery of Susa I and its homologues can possibly represent earlier stages of the figure style of "Susa II."

Ten years ago this difference in style, added to the discontinuity which the stratigraphy of the mound proved to have existed between

[1] Cros, *Nouvelles fouilles de Tello* (Paris, 1910) p. 310, Fig. 20.

[2] *Antiquaries Journal* IX, Plate XXII 1.

[3] The illustrations in Figure 8 are reproduced from two volumes of the "Mémoires de la Délégation en Perse":

NO.	REFERENCE	NO.	REFERENCE	NO.	REFERENCE
1	XIII, Fig. 121	7	*Ibid.* Fig. 235	13	*Ibid.* Fig. 227
2	*Ibid.* Fig. 132	8	*Ibid.* Fig. 237	14	XIII, Fig. 139
3	*Ibid.* Fig. 135	9	*Ibid.* Fig. 209	15	*Ibid.* Fig. 149
4	VIII, Fig. 228	10	*Ibid.* Fig. 233	16	*Ibid.* Fig. 152
5	*Ibid.* Fig. 229	11	*Ibid.* Fig. 211	17	*Ibid.* Fig. 144
6	*Ibid.* Fig. 234	12	*Ibid.* Fig. 226		

Susa I and "Susa II," left little basis for connecting the pottery of these two "civilizations." But since we now recognize that Susa I is only a representative of a culture which occupied the whole of the Iranian Highland, it becomes possible to consider the question afresh. The obvious contrast between the figure styles can be understood on the strength of recently discovered material, while at the same time it appears that the tradition of painted pottery in Persia was uninterrupted from earliest times down to the early dynastic period. The new material which Sir Aurel Stein brought back from Seistan and from Baluchistan gives striking evidence of a homogeneous Iranian Highland culture in Chalcolithic times. Besides the features to which we have already drawn attention (pp. 25–26 and Fig. 2) there are rows of small goats[1] (Fig. 9[2]) such as are well known from the Tepe Khazineh and Tepe Musyan stages of Susa I. In fact, Nos. 1–5 of our Figure 9 might have come from any of the sites on the western border of the Iranian Highland.

It is extremely interesting now to consider Nos. 6, 7, 9, and 10 of Figure 9. In them we see similar rows of little goats; and there can be no doubt that these sherds, found with the others, belong to the same stage of the Highland culture. But along with the goats a new element is seen: the huge figure of a humped bull, drawn with the wealth of naturalistic detail and the crosshatching known in the figure style of "Susa II."[3] Here, then, is an exceptionally clear indication of the influence which renewed the repertoire of the Highland pot-painters. The introduction of new elements counteracted the rapid geometrization of motives which led in the west, in Mesopotamia, and at Musyan to complete disappearance of figures from vase decoration.

[1] Archaeological Survey of India, Memoir 43, Plate XVII Sh.T.vi.13.h; Plate XX Seg.1–3, Thal.4; Plate XXI Kul.I.iv.3–4; Plate XXII Kul.4, Kul.IV.1; Plate XXVII Mehi.2 and 4; Plate XXIX Mehi.II.4.2; Plate XXXII Maur.2.

[2] The illustrations in Figure 9 are all reproduced from the work just cited:

NO.	REFERENCE	NO.	REFERENCE
1	Plate XX Thal.4	6	Plate XXI Kul.I.i.6
2	Plate XXVII Mehi.2	7	Plate XXVIII Mehi.I.1.6
3	Plate XXI Kul.I.iv.4	8	Plate XXIX Mehi.III.3.4
4	Plate XXXII Maur.2	9	Plate XXX Mehi.IV.1.1
5	Plate XXII Kul.4	10	Plate XXX Mehi.II.4.5

[3] *Ibid.* Plate XXI Kul.I.vi.1; Plate XXVIII Mehi.I.1.6; and especially Plate XXX Mehi.IV.1.1, Mehi.II.4.5, Mehi.III.8.1.

Since it is a far cry from Baluchistan to Susa, even though a homogeneous civilization prevailed originally over all the intervening territory, need may be felt for some further evidence to corroborate the stylistic resemblances existing, as we have just now observed, between the figure style of "Susa II" and the new elements which enriched the pot-painters' repertoire in Baluchistan. Such corroborative evidence is actually available; for recently Susa itself produced a sherd of the second style,[1] with the figure of a humped bull, and also clay figurines of humped bulls,[2] animals which abound in India and Baluchistan. Though it is perhaps a little hazardous to recall in this connection that Sir John Marshall considers post-cremation burials characteristic for the Indian element in Baluchistan (see p. 27), and that such a burial was actually observed in an undisturbed tomb at Tepe Ali Abad, the appearance of the Indian pipal tree on Baluchistan pottery (on Nal ware and even on a sherd with a design of mixed affinities [our Fig. 9, No. 10]) points toward India as the region whence the renewing factors emanated.

There is as yet scarcely enough material to follow the extension of the change from Baluchistan westward toward Elam. We may refer in this connection to some curious vessels from Nihawend (e.g., Fig. 10[3]) in which the predilection of Susa I for purely decorative stylization of natural objects can still be observed, whereas other motives, as well as the shape, point to the style of "Susa II," in which that decorative preoccupation no longer finds expression. Thus the history of vase-painting in Elam appears to be very much more complicated than was expected ten years ago and to be explicable only in a wider context which suggests that certain elements represent continuity and others innovations, even though at Susa itself there is a break between the two best known phases.

The generally accepted view that the "Susa II" style of vase-painting survived in Elam down to the time of Naramsin remains to be rectified. This assumption was based on the style of cylinder seals found with a well known cache of bronzes in a painted pot.[4] But now that these seals are published,[5] it is quite obvious that not one of them is

[1] "Mémoires de la Mission archéologique de Perse" XX 109, Fig. 11.

[2] *Ibid.* p. 110, Fig. 13.

[3] See also *Illustrated London News*, June 1, 1929, p. 944, Figs. 12–13.

[4] "Mémoires de la Délégation en Perse" XIII, Plate XXIV.

[5] Paris. Musée national du Louvre, *Catalogue des cylindres, cachets et pierres gravées de style oriental*, par L. Delaporte, I (Paris, 1920) Nos. S.37, S.348, S.410, S.434, S.459, and S.464.

Akkadian in style. In fact, they all belong clearly to the early dynastic period.[1] To the same period belong also the two vases mentioned above which were exported from Susa to Ur and Lagash. Presumably we should assign to the same period the curious painted pottery which

FIG. 10.—A PAINTED JAR FROM NIHAWEND IN THE COLLECTION VIGNIER, PARIS. HEIGHT, 32 CM.

Mr. Mallowan calls Nineveh V and which seems to represent another branch of the monochrome Iranian Highland ware. That such ware survived for some time in the east, in Baluchistan, is shown by the fact that it is mingled there with importations from the Indus Valley[2] which on the strength of our discoveries at Tell Asmar we must consider contemporaneous with the Sargonid age in Mesopotamia.

[1] So also Contenau, *Manuel d'archéologie orientale* II (Paris, 1931) 660–62.

[2] Cf. p. 25, n. 3.

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TABLE I

THE FOUR PRE-SARGONID PERIODS IN MESOPOTAMIA

Period	Stratification: Kish 1	Stratification: Ur 2		Erech 3	Distinctive Features 4	Other Sites 5	Foreign Connections 6
2500 Early Dynastic	**Sargonid buildings**	**Pit in town area**	**Pit in cemetery**		sculpture in the round and in relief inlays engravings in shell and in mother of pearl copper-casting à cire perdue	Assur H-G Tepe Gawra Adab	North Syria
	2.00 1.50 "red stratum" { objects as in Cemetery A { tablets like Entemena's	layers A–B: pottery and brick work as in "royal tombs"	varying depth cylinder seals of Ur I and "royal tombs"	Ia various building periods		Istabulat Khafaje	Caucasus
	0.50 "Deluge"					Nippur Lagash Susa	India
	Palace of Mound A? town twice rebuilt 6.00 tombs with chariots daggers etc. 3.00 2.50 tablets like those of Fara	4.50 E: end of plano-convex bricks reserved slip ware	interval during which rubbish accumulated	Ib end of plano-convex bricks	plano-convex bricks	Fara	
	1.00 reserved slip ware	2.50 F–H: end of buildings		Clay deposit 1.55			Egypt
2900 Jemdet Nasr	polychrome pottery and some traces of earlier wares	pink ware with red-brown bands	seal impression strata IV-V	II-III building with burials fired after interment and tablets and seal impressions		Jemdet Nasr: palace tablets pottery copper tools	from S. D. 63 to 1st dyn.
	Virgin soil	2.00 WASTERS: plum-red and polychrome pottery	graves with polychrome pottery			Assur, Nineveh, Khafaje, Fara: pottery	
	Kish at Harsagkalamma not inhabited	glazed vessel boar carved in stone				Musyan: tombs	
						Susa: polychrome pottery etc. and proto-Elamite tablets	
Uruk		3.50 KILNS AND: cement bricks and red and gray pottery	a few graves with red pottery rubbish accumulated into which the graves of the succeeding period were dug	IV "red temple" pictographic tablets seal impressions V temple on limestone foundation cement bricks large (half-meter) bricks VI white temple on earliest ziggurat cement tablets with seal impressions alabaster bird-vase VII-XIII pottery		Kish: stone pictographic tablet Nineveh and Tepe Gawra: pottery Susa: pottery and copper adz (1929)	Eastern Anatolia, Trans-caucasia, and Northern Persia
al-'Ubaid		3.50 "Flood" GRAVES: copper harpoon pear-shaped mace head 1.00 flints; obsidian; cristal huts in marshes	characteristic pottery, flints, etc.	XIV-XVIII characteristic pottery, flints, etc. in shaft		Tell Zeidan Nineveh Tepe Gawra Assur Al-'Ubaid Susa Musyan Samarra	Persia and Baluchistan
		Virgin soil	*Virgin soil*	*Virgin soil*		*Virgin soil*	

TABLE II

THE CONTINUITY IN THE FOUR PRE-SARGONID CULTURAL STAGES OF MESOPOTAMIA

Period	Personal Characteristics: Physical Type	Personal Characteristics: Appearance of Men	Spiritual Culture: Cults	Spiritual Culture: Language and Script	Material Culture
Early Dynastic	at end of period predominantly dolichocephalic at beginning of period predominantly brachycephalic	long hair worn in knot, with long beard and with upper lip shaved — — sometimes head and face shaved — —	— — — — — — — — — —	Sumerian script becoming purely cuneiform	clay cones and nails as architectural decoration, also hemispherical seals and copper the horse cylinder seals and animal-shaped stone vases certain seal designs, animal-shaped seals tesselated pillars, multiple alabaster vases and sculptured stone vases — — certain seal designs — —
Jemdet Nasr		long skirt shown with crosshatching	— — — — ziggurat — — — — —	Sumerian linear semi-pictographic script, differing at J. Nasr and Susa	
Uruk		long skirt	— — — — — — — — — —	origin of pictographic script	recessed building of temple walls flower-shaped nails and animal friezes as architectural decoration
al-'Ubaid	dolichocephalic		Marduk and Imgi perhaps indicated in vase paintings ——— worship at al-'Ubaid at temple of Ninharsag		reed huts, of which traditions survive in Sumerian architecture pear-shaped mace heads copper mirrors flint sickle teeth

Enlil and other gods mentioned

long tasseled skirt

= *reappears in Early Dynastic Period but not in intervening periods*

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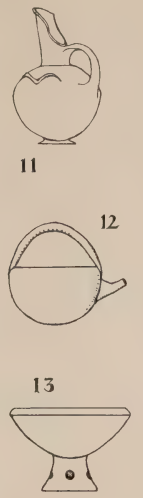

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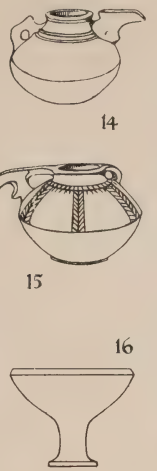

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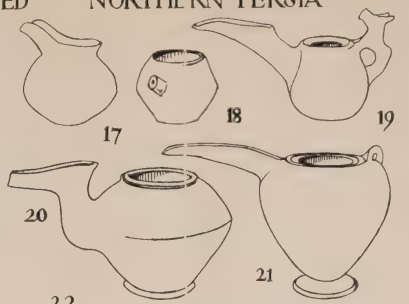

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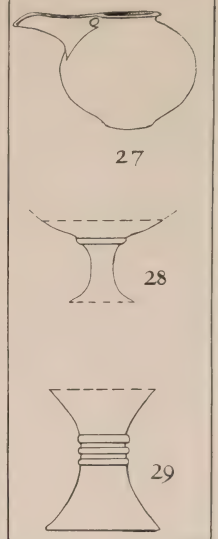

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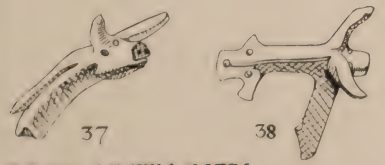

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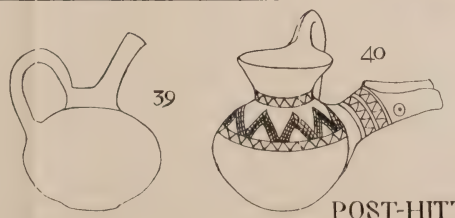

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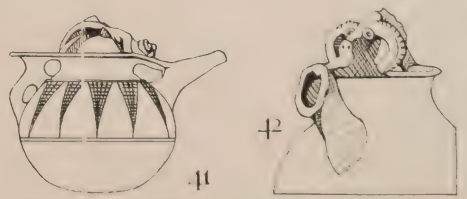

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